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ABSTRACT

After a brief introductory statement, the report proceeds to an overview of the population, level of education, income, demographic characteristics, types of employment, institutions of higher education, and problems on health services, health care facilities, and health personnel in West Virginia. The third section is devoted to a discussion of the quality and quantity of nursing care in the state, supported by regional maps and statistical tables. The students and programs contributing to nursing education are discussed in the fourth section, with tables on admissions, graduations, dropouts, and types of programs. The fifth section is devoted to leadership in nursing--how it is effective and how it can become more effective. The final section concerns conclusions related to the previous sections. A two-page bibliography concludes the report. (AG)

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NURSING in the MOUNTAIN STATE of WEST VIRGINIA

An Assessment and a Plan of Action

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HESSEL HOWARD FLITTER

NURSING IN THE MOUNTAIN STATE OF WEST VIRGINIA
AN ASSESSMENT AND A PLAN OF ACTION

The Final Report
of the
Committee to Study Nursing Needs
in West Virginia

Acknowledgment and appreciation is expressed to the Southern West Virginia Regional Health Council, Inc., for the use of manpower and facilities used in the preparation of this report.

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Committee to Study Nursing Needs in
West Virginia

Membership

1967 - 1970

Wilma Gillespie, Chairman (Practical Nursing Education)
Dorothy Brooks, Secretary (Associate Degree Education)

Betty Brown (Nursing Service)
Sister Mary Byrne (Diploma Education)
Josephine Fultz (President, W.V.N.A.)
Frances Gracey (Nursing Service)
Oleta Riffe (Public Health)
Gearlean S. Slack (Baccalaureate Education)

1968 - 1970

Cecelia Coyne (President, W.V.N.A.)

1969 - 1970

Nancy Martin (President, W.V.N.A.)
Margaret Wyatt (President, W.V.L.N.)

Consultants:

Frances M. McKenna, 1968
Hessel H. Flitter, 1969-1970

SECTION 1

INTRODUCTION

INTRODUCTION

This publication is the report of the Committee to Study Nursing Needs in West Virginia, a committee born from joint action of the Executive Committees of the two nursing organizations, the West Virginia League for Nursing and the West Virginia Nurses' Association. The report represents what can be accomplished when the thinking, perseverance, patience, and contributed efforts of a group of dedicated persons are shared and shaped by a common goal; namely, the improvement of nursing and the health services for the people of West Virginia. Committee members represented (1) four levels of nursing education - practical, diploma, associate degree, and baccalaureate degree nursing, and (2) nursing service - in hospitals and related institutions, and in public health. Various regions of the State were also represented by these members. In addition, the presidents of the two organizations served on the committee, and after each election, the newly elected presidents joined the original group.

For the most part, original data were not collected. Instead, each member of the committee prepared a statistical report which covered the nine regions of the State as designated in the Final Report, February 1967, of The Governor's Task Force on Health.[1] This report contains evidence that more effective planning for health services can take place when the 55 counties of the State are organized into nine planning regions. Members of the committee gathered comparable data for each region, utilizing some of the guidelines developed by the National League for Nursing in its publication Guidelines for Assessing the Nursing Education Needs of a Community.[2] Among others, original data relating to nurse mobility and faculty characteristics were furnished by Margaret Wyatt, Executive Secretary of the West Virginia Board of Examiners for Registered Nurses, and Oleta Riffe supplied statistics on public health nursing.

Miss Frances McKenna, formerly Executive Secretary to the West Virginia Board of Examiners for Registered Nurses, prepared a publication known as The McKenna Report[3] which stressed chiefly the nursing education needs in the State. The McKenna Report, published in 1968, may serve as a complement to the present publication which is the report of the Committee to Study Nursing Needs in West Virginia.

The writer began to work with the committee in 1969. Their efforts and faith in the development of a final report, despite countless obstacles, have been largely responsible for the present publication which sets forth factually the recommendations of the committee.

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[1]Task Force on Health. The Governor's Task Force on Health, Final Report, February 1967, p. 84.

[2]National League for Nursing. Guidelines for Assessing the Nursing Education Needs of a Community. New York: The League, 1968.

[3]Frances M. McKenna. Nursing in West Virginia 1968. Charleston, W. Va.: W. Va. State Board of Examiners for Registered Nurses, 1968.

RECOMMENDATIONS OF THE COMMITTEE

MANPOWER.....

THERE IS AN URGENT NEED FOR.....

1. more nursing personnel in West Virginia
2. increasing enrollment in schools preparing nursing personnel
3. increasing graduations from present programs
4. decreasing attrition from programs, the State, and from the profession
5. assisting nursing personnel at all levels to advance both vertically and horizontally in a nursing career

LEADERSHIP.....

THERE IS AN IMMEDIATE NEED FOR.....

1. more effective nursing leadership
2. higher educational opportunities in nursing
3. more effective preparation of clinical specialists
4. more effective use of clinical specialists

DELIVERY OF HEALTH CARE.....

THERE IS A PRESSING NEED FOR.....

1. offering quality health care to all the people of the State
2. increasing safe and effective care in institutions that meet accrediting and licensing requirements
3. centralizing information on health resources throughout the State
4. finding better ways to effectively utilize nursing personnel
5. initiating a State-wide Commission on Nursing to coordinate nursing activities
6. planning for nursing education and service on a State-wide basis within the broad context of total health care

SECTION II

WEST VIRGINIA.....

A STATEMENT OF NEEDS

Section II

WEST VIRGINIA..... A STATEMENT OF NEEDS

The Committee to Study Nursing Needs in West Virginia is an appropriate sequel to the Governor's Task Force on Health whose function it was, among others, "to assess the overall health needs of the State, to study the capabilities of West Virginia for meeting these needs, and to prepare a State-wide program for both immediate and long-term action....."[1] Whereas the Task Force was concerned with total health needs and comprehensive health planning to meet these needs, the Committee's focus was on ways in which nursing could help meet these needs.[2] The concern of the Committee was consistent with the Task Force's recommendation that each professional associati study the effects of the critical shortage of health workers and prepare specific plans to meet future needs. The report of the Task Force is replete with examples of major health problems, and evidence of the need for additional health services and manpower. Some of the data and recommenda tions which are included in the report of the Task Force are an essential part of the background for the final report of the Committee to Study Nursing Needs in West Virginia.

The nine regions of the State recommended by the Task Force for comprehensive health planning have been utilized throughout this report. The nine regions and the counties within each region are listed below to assist the reader.

---

[1]Task Force on Health. The Governor's Task Force on Health, Final Report, February 1967, p. 1

[2]Ibid., p. 19

Region 1
- Boone
- Kanawha
- Putman

Region 2
- Cabell
- Lincoln
- Mason
- Wayne

Region 3
- Calhoun
- Jackson
- Pleasants
- Ritchie
- Roane
- Tyler
- Wirt
- Wood

Region 4
- Brooke
- Hancock
- Marshall
- Ohio
- Wetzel

Region 5
- Doddridge
- Gilmer
- Harrison
- Lewis
- Marion
- Monongalia
- Preston
- Taylor

Region 6
- Berkeley
- Grant
- Hampshire
- Hardy
- Jefferson
- Mineral
- Morgan
- Pendleton

Region 7
- Barbour
- Braxton
- Clay
- Greenbrier
- Nicholas
- Pocahontas
- Randolph
- Tucker
- Upshur
- Webster

Region 8
- Fayette
- Mercer
- Monroe
- Raleigh
- Summers

Region 9
- Logan
- McDowell
- Mingo
- Wyoming

West Virginia and the Nation

Looked at in its entirety, West Virginia is faced with the same major health problems which confront the nation. In both the nation and the state, "heart, cancer, and stroke" are leading causes of death and sources of illness. But West Virginia has particularly high incidences of morbidity and death due to tuberculosis, parasitic diseases and diseases of childhood. State-wide health problems include inadequate nutrition, inadequate health education and public health services, as well as a lack of systematized means of preventing, reporting, and controlling disease. Insufficiency of control of air and water pollution, of adequate sewage disposal, of rodent and insect control, and maintaining an environment for healthful living is a much greater problem

in certain areas of West Virginia than it is in the nation as a whole. In addition, many of the State's social and economic problems impinge upon and complicate the solution of its health problems. Together, health, social, and economic problems form a vicious circle. For example, the dwindling population of the state due to outward migration further reduces the state's health manpower supply. But attracting competent workers to the state requires the economic spirit characteristic of an increasing population and adequate health services. Even with financial assistance from outside the state, it is difficult to conceive how a single problem such as health manpower shortage can be solved in isolation without simultaneous efforts to solve other problems which encroach upon it.

West Virginia has demographic characteristics that differ from other states and yet there is evidence that areas of West Virginia which border upon other states (Kentucky, Maryland, Ohio, Pennsylvania, and Virginia) tend to take on some of the characteristics of the adjacent states. On the whole, however, West Virginia is unique and decidedly different from the states which are contiguous with its borders. The differences are apparent in the following examples.

In terms of percentage of the population which was Negro, according to the Bureau of Census statistics, the respective percentages for West Virginia and its bordering states were as follows:

West Virginia.....4.8 percent

Kentucky.....7.1 percent
Maryland.....20.6 percent
Ohio.....8.1 percent
Pennsylvania.....7.5 percent
Virginia.....20.6 percent

In the same census report, median school years completed in West Virginia and its neighborin states were the following:

West Virginia.....8.8 years

Kentucky.....8.7 years
Maryland.....10.4 years
Ohio.....10.6 years
Pennsylvania.....10.2 years
Maryland.....9.9 years

The size of a household in terms of persons per household was relatively consistent among West Virginia and its bordering states, according to the Bureau of the Census.

West Virginia.....3.51 persons

Kentucky.....3.47 persons
Maryland.....3.48 persons
Ohio.....3.33 persons
Pennsylvania.....3.30 persons
Virginia.....3.53 persons

Compared with the nation as a whole, West Virginia is a decidedly rural state. Although seventy percent of the population of the United States live in urban centers, only thirty-eight percent of West Virginia's population live in urban centers. However, the mountainous nature of the terrain of the State does not permit the highly profitable wide scale type of agriculture that is characteristic of rural areas in the mid-western plain states. Such industries as are pursued, namely coal mining and lumbering, are not associated with a high per capita income. The median family income in West Virginia in 1960 was $4,572 which was over

$1,000 below the median family income of $5,660 for the nation. Nationally, 15.1 percent of all families had an income of $10,000 or more as compared with 8.4 percent in West Virginia and approximately one-third (32.6 percent) of West Virginia families had incomes under $3,000 as compared with approximately one-fifth (21.4 percent) of the families in the nation as a whole with incomes under $3,000.

The effect of economic restrictions upon education can be seen in the following statistics:

	United States	West Virginia
Per capita expenditures for education (1965)	$ 149.00	$ 113.00
Average annual salary for elementary school teacher (1966)	$6,293.00	$4,820.00
Average annual salary for high school teachers (1966)	$6,768.00	$5,200.00
Years of schooling completed by persons 25 years and older (1966)	10.6 years	8.8 years
Percentage of adults who completed high school	41.1 percent	30.6 percent

TABLE 1

WEST VIRGINIA'S POPULATION BY AGE GROUPS, 1950, 1960, and 1970 AND PERCENTAGE INCREASE AND DECREASE

Age Group	1950 Population	1960 Population	Increase or Decrease 1950-60	Percentage Increase or Decrease 1950-60	1970 Population	Increase or Decrease 1960-70	Percentage Increase or Decrease 1960-70
Under 5	240,107	196,295	- 43,812	-18.2	179,622	-16,673	- 8.5
5 - 19	562,809	558,637	- 4,172	- .7	531,466	-27,171	- 4.9
20 - 44	720,383	560,666	-159,717	-22.2	518,803	-41,863	- 7.5
45 - 64	343,727	372,307	+ 28,580	+ 8.3	359,403	-12,904	- 3.5
65 & Over	138,526	172,516	+ 33,990	+24.5	184,295	+11,779	+ 6.8
TOTAL	2,005,552	1,860,421	-145,131	- 7.2	1,773,589	-86,832	- 4.7

Sources: Bureau of Census Reports - 1950, 1960.

West Virginia is characterized as a state with a dwindling population. However, the 1970 estimated Census statistics show differences in proportion of the population within given age groups as are apparent from the percentages shown in the following table. There are proportionately more older people in West Virginia than are found in comparable age groups in the nation as a whole.

	Under 5	5-9	10-14	20-34	35-44	45-54	55-64	Over 65
West Virginia	10.1	20.0	9.8	20.2	9.2	10.8	9.5	10.4
United States	10.4	20.0	9.2	20.2	11.0	11.2	8.8	9.2

Closely correlated with the atypical age distribution is the fact that in terms of national norms, West Virginia has a relatively low birth rate and a relatively high death rate as the following figures indicate.

	Birth Rate	Death Rate
West Virginia	18.1	10.7
United States	19.4	9.4

West Virginia and Its Regions

Demographic Characteristics

Demographic and other statistics indicate that social, economic and health problems are not distributed equally among the nine regions of the State in this study. For example, while the total population of the State is decreasing, the decrease is not distributed evenly among the nine regions or among age group intervals of the population. Although the number of children under five years of age is decreasing in each of the regions, variation exists among the regions in respect to the other age group intervals. The differences in population between 1960 and 1970 are shown below for each region and age group interval.

REGIONS	Under 5	5-19	20-44	45-64	65 & Over	Total Increase or Decrease	Percent Increase or Decrease
1	- 2,600	+ 1,568	- 5,112	+ 5,637	+ 4,400	+ 3,893	+ 3.2
2	- 481	+ 23	- 2,386	- 641	+ 2,173	- 1,312	- 0.7
3	- 1,494	+ 7,550	+ 637	+ 1,555	- 165	+ 8,083	+ 5.3
4	- 1,575	+ 4,884	- 3,588	+ 1,519	+ 750	+ 1,990	+ 1.0
5	- 14	- 2,943	- 8,356	- 5,354	+ 718	-15,949	- 6.5
6	- 6	+ 456	+ 2,205	+ 1,745	+ 1,507	+ 5,907	+ 4.9
7	- 1,705	- 9,728	- 3,692	- 4,287	- 401	-19,813	-11.7
8	- 2,299	-12,920	-11,241	- 7,222	+ 2,142	-31,540	-13.4
9	- 5,747	-15,510	- 9,264	- 5,132	+ 829	-34,824	-16.8
West Virginia	-15,921	-26,620	-40,797	-12,180	+11,953	-83,565	- 4.7

The median 1960 family income for Region 4, which was $5,746 is above that of the nation as a whole, while the median income for Region 7, which was $3,029, is far below the national median. Similarly, in the same census, Region 4 had forty persons per 1,000 population on public assistance and Region 9 had 155 persons per 1,000 population on public assistance.

The following 1969 data describe pertinent characteristics for each of the nine regions listed in numerical sequence.

REGION	Median Family Income (1)	Percent of Families with Incomes Below $3,000 (2)	Percent of Families with Incomes $10,000 or More (3)	Number of Persons on Public Assistance per 1,000 Persons (4)	Percent of Adults Completing High School (5)
1	$ 4,927	30.5	8.8	68	20.9
2	4,116	37.8	7.1	91	26.1
3	3,865	40.7	5.3	55	26.4
4	5,746	18.5	12.2	40	34.8
5	3,817	40.0	5.5	43	30.8
6	3,459	45.0	4.7	50	24.2
7	3,029	49.5	3.7	127	22.5
8	3,415	45.7	4.8	108	25.5
9	4,572	38.4	5.7	155	19.7

The pattern of relative standing of each of the nine regions is more apparent when the data in the above table are converted into rank order as is done in the following tabulation. To facilitate comparison, inverse rankings have been used in columns (2) and (4). There was however, no

marked correlation between the standing of the region as to an economic characteristic such as median income and its standing on the percentage of adults who completed high school.

Rank Order of the Nine West Virginia Regions on Each of Five Population Characteristics

REGION	Median Family Income (1)	Percent of Families with Incomes Below $3,000 (2)	Percent of Families with Incomes $10,000 or More (3)	Number of Persons on Public Assistance per 1,000 Persons (4)	Percent of Adults Completing High School (5)
1	2	2	2	5	8
2	4	3	3	6	4
3	5	6	6	4	3
4	1	1	1	1	1
5	6	5	5	2	2
6	7	7	8	3	6
7	9	9	9	8	7
8	8	8	7	7	5
9	3	4	4	9	9

Columns (1), (3), (5) -------- 1 is highest, 9 is lowest
Columns (2), (4) ------------ 9 is highest, 1 is lowest

Occupations

Occupations differ to the extent that a region is primarily urban or rural. Urban communities generally support some manufacturing establishments. For example, Region 4, which is chiefly

industrial in nature, occupies workers in plants which manufacture such diverse products as furniture, textiles, leather goods, stoneware, and plastics. Mining equipment plants employ a considerable number of workers throughout the state. Those regions which are primarily rural raise livestock and poultry. The sale of corn, other grains, and hay are major sources of income in the rural counties in most of the nine regions. Numerous coal mining companies exist throughout the state, some of which are found in each region. Region 7 alone has 56 coal mining establishments with a minimum of one company in one county and as many as 19 in another. In addition to coal, several regions produce significant amounts of natural gas, petroleum, and electric power.

Bureau of the Census statistics for 1963 give more concrete evidence of industries and occupations available to the citizens of West Virginia. Over 40 percent of the 117,000 employees reported in manufacturing trades are located in just three of the fifty-five counties, namely Hancock, with 15,000 employees; Kanawha, with 22,000 employees; and Wood, with 10,000 employees. Almost half (over 47 percent) of the 61,000 employed in retail trade establishments in the state are located in just five counties, namely 11,000 in Kanawha; 5,700 in Cabell; 5,000 in Ohio, and 3,500 in each of Wood and Harrison Counties. There are 2,700 mineral industry establishments in the state; the greatest number given is 208 in McDowell county and the least number is one in each of Morgan and Summers Counties. More than one-third of the 48,000 persons employed in the State's mineral industries are located in just four counties; namely, 5,600 in McDowell, 4,800 in Logan, 4,000 in Wyoming, and 2,400 in Fayette Counties.

Farms represent 34.3 percent of the total land in the State. Jefferson County's farmland is 75.8 percent of its total acreage, whereas Logan's is 3.2 and Boone's is 2.6 percent of its total acreage. The average value per acre is $92.00 for the State as a whole, but values vary greatly by county from $25.00 in McDowell to $235.00 in Jefferson County.

As the following table indicates, the portion of the labor force holding while collar jobs is relatively constant throughout the regions ranging from 27.0 percent in Region 6, and 34.7 percent in Region 2. However, there is relatively marked variation among the regions as to the percentages of workers in manufacturing, ranging from 5.1 percent in Region 9 to 43.1 in Region 4.

Region	Percent in Manufacturing	Percent in White Collar Jobs
1	25.1	32.6
2	23.8	34.7
3	28.3	30.0
4	43.1	34.2
5	16.8	33.0
6	20.8	27.0
7	16.0	31.2
8	14.9	34.0
9	5.1	31.0

Source: Bureau of the Census Reports, 1963

Of West Virginia's 400,000 industrial workers, only about 20 percent have adequate medical and nursing service available to them in the small number of the State's industries which employ more than 500 persons. A preventive and educational program, as well as a corrective and curative one, should serve to raise the health standards of the State's industrial workers.

Higher Education

Positive action to meet any increased demand for health services and the resultant increase in the preparation of health manpower would necessarily increase overall enrollments in institutions which now offer or which will offer programs to prepare for the health occupations. Many health workers can be prepared in institutions offering less than a baccalaureate degree. In the majority of states in the nation, the community college system makes significant contributions to the preparation of health manpower.

West Virginia has not developed a State-wide system of tax-supported, two-year community colleges. Instead, four-year institutions have assumed responsibility for preparing health manpower usually educated in two-year career programs. West Virginia's associate degree nursing programs, for example, are located in senior colleges. Other states which have discontinued this practice claim that they did so because of problems which they assert arise from having an associate degree program in a four-year college setting and because of financial savings from offering technical level programs in health and other disciplines in the community college setting.

In other states, too, an integral part of the state's economic development has been the expansion of opportunities for technical-level education in tax-supported community colleges. West Virginia might well consider the need for providing such opportunities.

Institutions of higher education within the state are listed below by region with a brief description of each.

Region	Institution	Type
1	(1) Morris Harvey College Liberal Arts Two-year program - in Nursing	Senior
	(2) West Virginia State College Educational area - Primary and secondary education, arts, sciences, business administrative, home economics, technical science. Pre-professional - Medicine, dentistry, engineering, pharmacy, nursing.	Senior
2	(3) Marshall University Graduate School - MA, MS, MBA College of Arts and Sciences - BA, BS Two-year programs - AD in Nursing College of Applied Science - BS in Engineering BS in Medical Technology	Senior, Graduate
3	(4) Ohio Valley College Liberal Arts, communication, fine arts, pure sciences, religion, social sciences, applied arts and sciences.	Junior
	(5) West Virginia University - Parkersburg Center Associate in Arts Degree Associate in Applied Science Degree Associate Degree in Nursing	Technical, Pre-Prof.

Region	Institution	Type
4	(6) West Liberty State College Education - BA, BS Dental Hygiene - BS Associate in Arts Associate in Science Associate in Nursing	Senior, Technical Pre-professional
	(7) Wheeling College Liberal arts and sciences	Senior, BA, BS
	(8) Bethany College Departments - Arts, Biology, Chemistry, Economics, Education, English, Languages, History and Political Science, Communications, Mathematics, Music, Philosophy, P.E. and Health, Psychology, Physics Pre-professional - Medicine, Nursing, P.T.	Senior
5	(9) Fairmont State College Liberal arts and sciences Education Pre-professional - General Education Associate in Nursing	Senior, BA, BS Technical
	(10) Glenville State College Education Liberal Arts and Sciences Two-year program - Agriculture and Business Education, Nursing	Senior, Technical, Vocational
	(11) Salem College BA - Arts and Sciences BS - Biology, Chemistry, Math, Medical Technology, Pre-professional Associate in Nursing	Senior, Technical

Region	Institution	Type
5 (cont.)	(12) West Virginia University Graduate School, College of Arts and Sciences, School of Dentistry, Education, Law, Medicine, Pharmacy, BS in Nursing	Senior, Graduate
6	(13) Potomac State College (Associated with West Virginia University) Two-years in Arts and Sciences Pre-professional work in Agriculture, Commerce, and Business, Medical Technology, Nursing, and P.E.	Junior
	(14) Shepherd College Liberal Arts and Sciences Art, Biology, Chemistry, Home Economics Physics, Psychology Pre-professional - Dentistry, Law, Medicine, Nursing, Pharmacy	Senior, AB, BS, Vocational
7	(15) Alderson-Broaddus College Liberal Arts Humanities, Social Sciences, Natural Sciences, Professional Studies, Business Administration, Elementary Education, BS in Nursing Pre-professional - Dentistry, Law, Medicine, Ministry	Senior, BA, BS
	(16) Davis and Elkins College Liberal Arts	Senior
	(17) West Virginia Wesleyan College Liberal Arts and Sciences, BS in Nursing	Senior

Region	Institution	Type
7 (cont.)	(18) Greenbrier College Fine Arts, Secretarial	Junior
8	(19) Beckley College	Junior
	(20) Bluefield State College Liberal Arts, Sciences, Pre-professional, Art, Biology, Chemistry, Education, English, Health, P.E., Social Science, Math, Technologies, AD in Nursing	Senior, BA, BS, Technical AD
	(21) Concord College Education, Business Administration, Medical Technology, Chemistry, English, Languages, Social Science	BA
	(22) West Virginia Institute of Technology Engineering, Chemistry, Technology - Drafting Design Pre-professional in Law, Medicine, Dentistry	Senior, BA, BS, Technical, Associate in SC
9	(23) Marshall University Branch	

In 1967, the 23 institutions listed above enrolled in all of their programs approximately 53,000 full-time students of which 31,000 were men and 21,000 were women. In addition, part-time students numbered 8,000 men and 6,000 women. In the face of the need for expanding health manpower, some of the institutions have expressed interest in expanding or initiating new programs. Lack of faculty potentials, funds, and adequate clinical facilities have been cited as deterrents to further expansion.

Health Services

A thorough and penetrating analysis of the status of health services in West Virginia was made in the Governor's Task Force on Health in 1967.[1] Because of the pertinence of that analysis to the present report, the eleven problem areas which were identified by the Task Force as being of major significance are summarized for the reader's consideration.

1. Low Income. Results of the low per capita income of the state deters and complicates delivery of adequate health services in many ways.

2. Awareness of Health Conditions. Lack of awareness of health needs results in indifference and low motivational levels which are major deterrents to the solution of health problems.

3. Planning for Health Services. Fragmented, uncoordinated activities by isolated organizations and agencies have resulted in confused growth of health facilities and failure to meet health needs.

4. Limitations of Administration. Lack of funds and personnel of varied organizations which administer health services had precluded their joining together to establish realistic goals with coordinated efforts to meet them.

5. Expenditures for Health Services. The reluctance to provide money for adequate health care, commensurate with overall economic growth, is damaging both to the health of the people and continued economic growth.

6. Education for Health. The inability and inadequacy of the educational system and public health education to implant high valuation of health in the minds of the citizenry has resulted in a reduction of both health services and the utilization of services which do exist.

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1. Op. Cit., Pp. 5-10.

(7) Changing Trends in Health Services. West Virginia has been passed by in getting its fair share of the health benefits from the new technologists, techniques, therapies and appropriations to health care which are available today.

(8) Manpower. In the face of rapidly increasing State-wide shortage of health workers. the number of health professionals and other personnel has actually declined in West Virginia.

(9) Environment for Adequate Health. In spite of superficial stop-gap measures, there have been no significant concerted efforts to correct those environmental factors which are potential health hazards to the citizens of the State.

(10) Preventive Care. Failure to provide adequate, complete health care for each child results in unnecessary and preventable suffering, economic loss and excessive burdening of existing health facilities due to avoidable diseases of the adult.

(11) Facilities for Health Services. The State suffers from a marked deficit of health facilities for the elderly, the convalescent and the chronically and mentally ill.

Health Care Facilities

A justifiable concern of the Committee to Study Nursing Needs in West Virginia and of the Governor's Task Force is the quantity and quality of health care available to West Virginia's elderly and chronically ill. As stated above, there is wide disparity between facilities for care of the aged and chronically ill in West Virginia and the rest of the nation. Even within the State on a regional basis, marked disparities exist in providing this type of care.

Statistics found in the following table include all of the health facilities for the aged and chronically ill throughout the state. The number of beds listed include those in

extended care facilities as well as some beds which may have been counted also as general hospital beds. In one facility where bed capacity was unknown, number of beds were estimated on other facts known about the area. The table may be a slight, but hardly significantly so, overestimate of facilities.

Nursing Home and Extended Care Facilities

Region	Number of Homes and Facilities	Number of Beds	Beds per 1,000 Persons 65 years and over
1	5	195	7.5
2	4	297	14.4
3	6	210	12.6
4	7	278	13.7
5	11	365	12.5
6	4	89	6.3
7	5	305	7.8
8	5	172	7.3
9	0	0	0.0

One of the most impressive facts is that Region 9, which has been shown repeatedly to be an area of need economically and in terms of health services, has no health service facilities in the form of extended care facilities or licensed nursing homes. Moreover, regions which were relatively well supplied with other types of health facilities and personnel

were again the regions that are best supplied with nursing homes and extended care facilities.

In addition to hospitals and nursing homes, there is a health department in each of the 55 counties with at least a part-time health officer and one public health nurse. Larger agencies also employ one or more sanitarians, clerks, and ancillary workers. The largest county health department reported has a full-time health officer, 11 sanitarians, 10 clerks, and 11 public health nurses. In addition to services from the County Health Departments, six home health agencies in four regions gave home health care. The largest of these six in Region 8 employed 23 health worker including 12 registered nurses. It is significant to note that none of the health departments are presently accredited by the National League for Nursing.

Rankings of Nine West Virginia Regions as to Supply of Physicians, Dentists, Registered and Practical Nurses, and Hospital Beds

Region	Rank as to Supply of Personnel & Facilities*				
	Physicians	Dentists	Registered Nurses	Licensed Practical Nurses	Hospital Beds
1	4	2	4	4	8
2	3	3	5	1	1
3	7	5	2	6	4
4	2	4	1	2	7
5	1	1	3	5	2
6	8	8	6	9	3
7	6	6	8	8	6
8	5	7	7	3	5
9	9	9	9	6	9

*Based on number of persons or facilities per 100,000 population

Health Personnel

Section III which follows will deal exclusively with statistics on nurses and nursing. Section II of this report has concerned itself with broader aspects of West Virginia's health needs and the resources within each of its regions which are in part an answer to these needs. The table shown above indicates the ranking of each of the nine regions in the State as to its supply of physicians, dentists, registered professional nurses, practical nurses, and hospital beds. A rank of 1 indicates the greatest supply and a rank of 9 the least.

SECTION III

NURSING IN WEST VIRGINIA.....

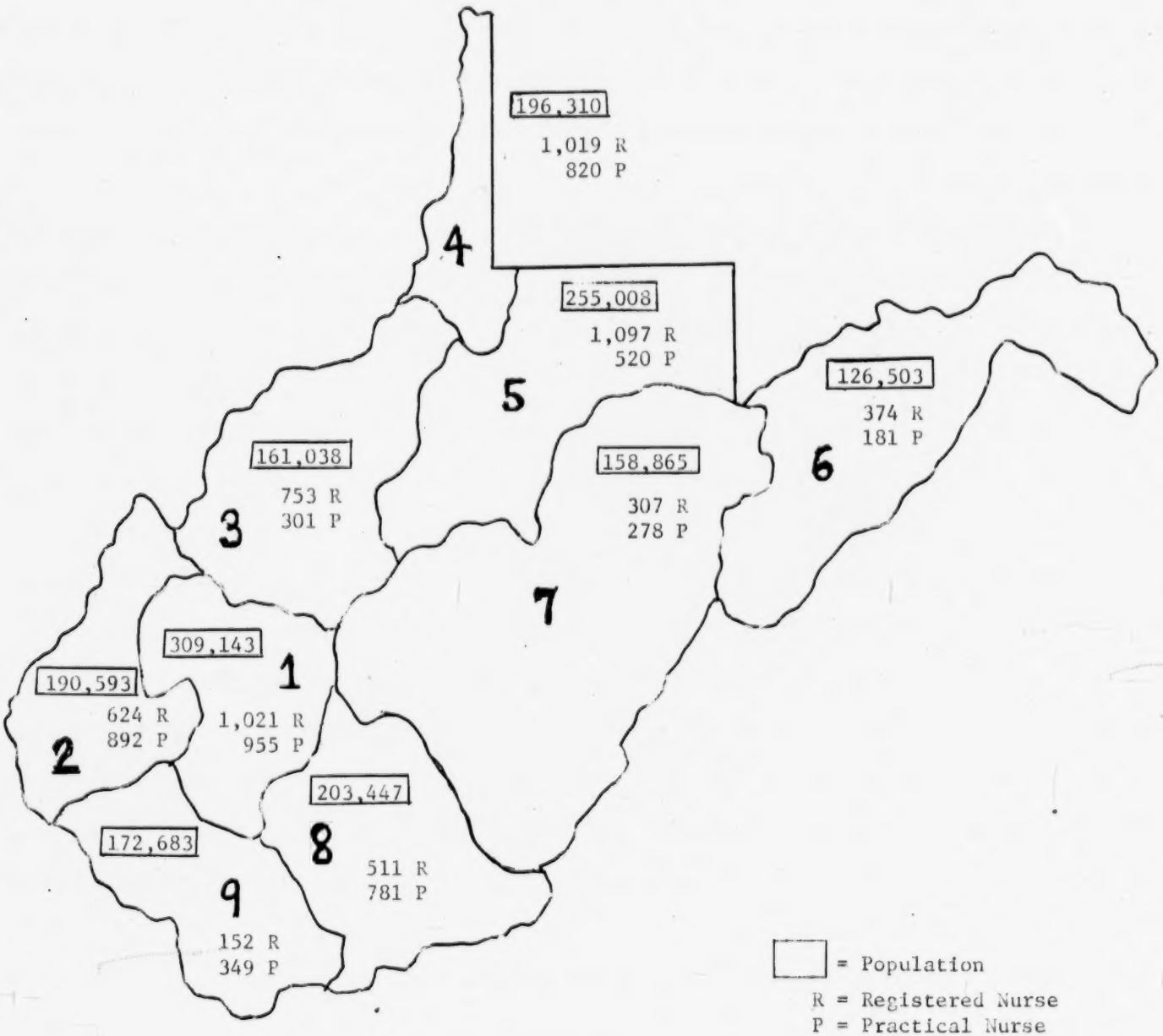
QUANTITY AND QUALITY

Section III

NURSING IN WEST VIRGINIA.....QUANTITY AND QUALITY

Assessors of nationwide reports on nurse supply assert that the national shortage of nurses is alarming, critical and crucial. In 1968, West Virginia had 5,306 registered nurses actively employed to serve a population of about 1,800,000. This number resulted in a ratio of 294 nurses for every 100,000 persons. West Virginia would have needed over one-half more registered nurses (2,758) to reach the national ratio of 450 active R.N.'s per 100,000 persons, which the Division of Nursing of the U.S. Department of Health, Education, and Welfare states is the minimum needed to effectively meet the health needs of our citizens. Even to meet a lesser goal of 375 registered nurses per 100,000 persons would have required adding 1,414 more R.N.'s to the depleted health manpower pool of West Virginia. In 1969, the ratio rose to 330 compared to 338 for the nation, but this rise resulted in only one more nurse for every 333 persons. The annual net gain in professional nurse supply over the past decade in West Virginia averaged about 100 nurses per year. Based on this fact alone, it could take over fourteen years before West Virginia would meet a goal for nurse manpower which should have been met yesterday. Nor is the shortage one of quantity only. Relative scarcity of health facilities, unequal population densities of the counties throughout the State, shortage of physicians exceeding the shortage of nurses, inadequate preparation of nursing personnel are all facts which point to the need for considering quality as well as quantity of nurses. The 1965 A.H.A. - U.S.P.H.S. hospital survey of needs of hospitals for personnel showed that West Virginia exceeded the national average in the percent of nursing

Figure 1. NUMBER OF REGISTERED NURSES, LICENSED PRACTICAL NURSES AND POPULATION BY REGION



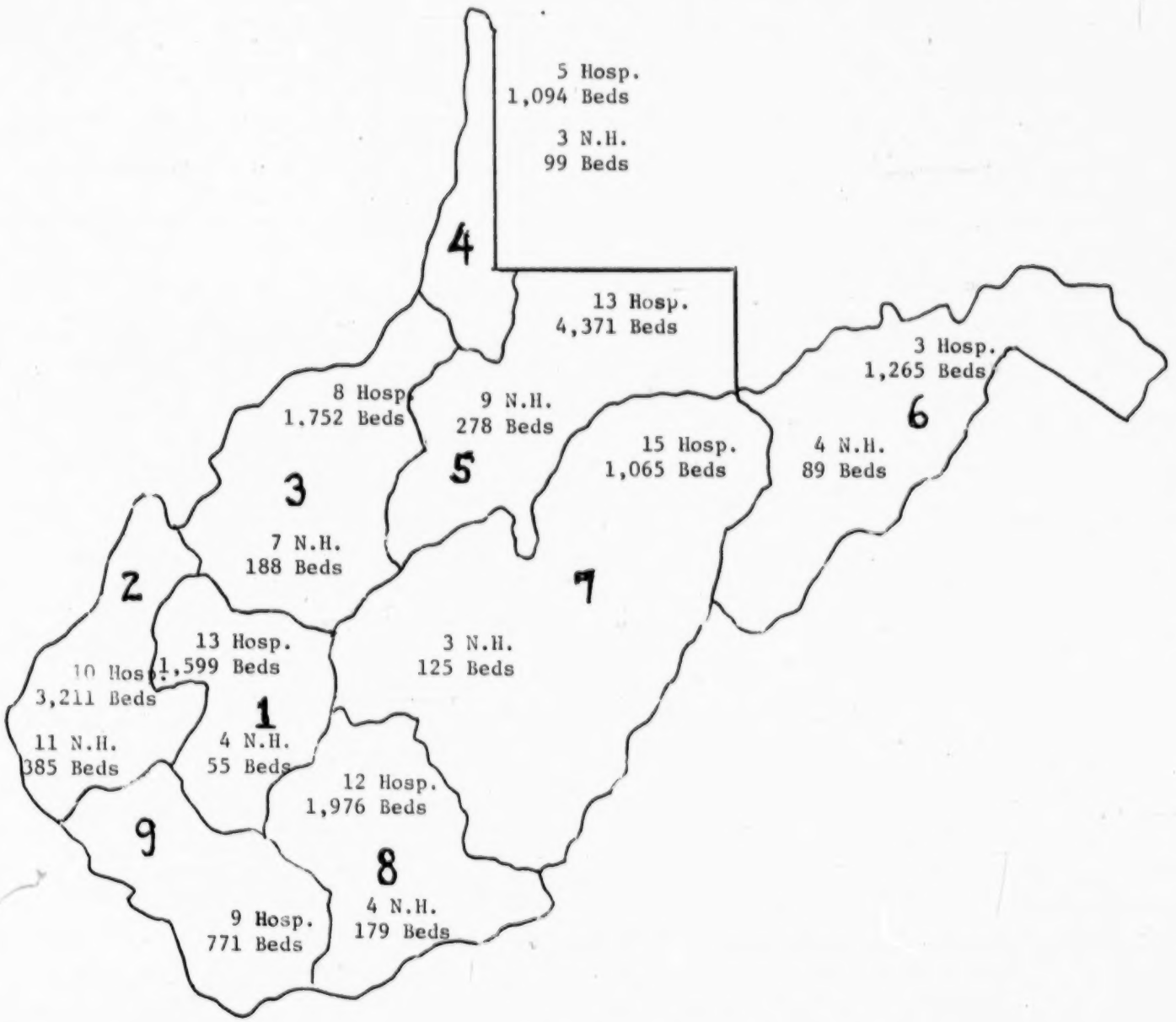
personnel below the R.N. level who give direct care to patients. In the United States, sixty-four percent of direct patient care was found to be given by L.P.N.'s, aides, orderlies, and other non-professionals; in West Virginia, almost sixty-seven percent of direct care was delivered by workers in these categories.

Annual licensure statistics for 1969 reveal a total of almost 7,000 licensed registered nurses, of whom 5,858 were actively employed. There are also about 5,100 practical nurses licensed in the State. Figure 1 shows for each region of the State the number of actively employed registered nurses, licensed practical nurses and the 1970 estimated population. Location of nurses is by county reported on the licensure application. In some cases, the location may be the county of residence rather than the county or region of employment and may result in some discrepancy in figures because nurses may reside in one county and work in another one. Also, in those counties bordering other states, nurses may be licensed and employed in West Virginia but reside in another state. Regardless of these facts, Figure 1 portrays an imbalance in the relationship of nurse supply to population by region. For example, Region 4 (Wheeling) with an estimated population of about 195,000 persons has 1,019 registered nurses, while Region 1 (Charleston) with over 100,000 more persons (an estimated population of 309,000) has only 2 more registered nurses (1,021), and Region 2 (Huntington) with about the same population as Region 4 (190,000) has only a little over half the number of registered nurses (624) found in Region 4. Region 9 shows the greatest discrepancy of nurses to population with only 152 registered nurses for a population of about 173,000 persons, or 88 nurses per 100,000 population.

Figure 2 identifies the number of licensed hospitals and hospital beds and the number of licensed

Figure 2. NUMBER OF HOSPITALS, NURSING HOMES, EXTENDED CARE FACILITIES AND BEDS BY REGION

1968



nursing homes and nursing home beds in each of the nine planning regions. It appears that the total number of employed nursing personnel per region is more closely related to the percentage of high income families than to either the capacity of the health facilities in the region or the regional population. For example, Regions 1 and 4 have the greatest number of R.N.'s and a high percentage of families earning $10,000 or more. Data for specific counties within the regions seem to accentuate the relationship of nurses to income.

Preliminary data from a survey of bedside nursing personnel conducted in 1966 by the Public Health Service Division of Nursing[1] indicate that in 4,352 general and allied special hospitals throughout the nation, there is a complement of about 81 nursing personnel for every 100 patients. Of the 81 nursing personnel, 25 are registered nurses and almost 56 are practical nurses, attendants, nursing aides and orderlies. The same data show that in 43 hospitals in West Virginia, there are 72.6 nursing personnel for every 100 patients, and that of the 72.6 nursing personnel, only 19.4 are registered nurses and 53.2 practical nurses, attendants, nursing aides and orderlies. Similar information is available for psychiatric hospitals. In these institutions, there are 26.7 nursing personnel, of which only 1.5 represents registered nurses nationally. In West Virginia only 7.4 nursing personnel are available to psychiatric patients, and of these, only 0.1 represents registered nurse personnel. In tuberculosis hospitals, West Virginia exceeds the national figures.

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[1]American Nurses' Association, Facts About Nursing 1969, pp. 28-29

In the United States, there were 35.2 nursing personnel for every 100 patients and of this number, 5.6 were registered nurses. In West Virginia, 44.5 nursing personnel were available in tuberculosis hospitals for every 100 patients and of the 44.5, 8.1 represented registered nurses.

The educational preparation of those nurses who are active in direct patient care, in nursi education, and in administration is particularly significant to the quality of nursing care and education. This premise was emphasized by the Nurse Training Act Review Committee which projected that by 1975 "forty percent should be prepared at the baccalaureate and higher degree levels to form a nucleus for planning, coordinating, and giving expert care, with the remaining sixty percen prepared to assume nursing responsibilities that are less complex in nature.[1]

In West Virginia where the ratio of the number of registered nurses to population is below the national average, where a relatively large proportion of nursing care is provided by practical nurses and other non-professional personnel, and where there are marked regional variances in health care facilities and personnel, educational preparation of active nursing personnel is acute deficient.

Tables 2 and 4 provide data on educational preparation of West Virginia's registered nurses licensed in 1969. In one sense, it is difficult to analyze the findings relative to educational preparation because some information about the highest earned degree held was not reported by the

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[1]Nurse Training Act 1964, U.S. Department of Health, Education, and Welfare, Page 13

TABLE 2

NURSES REGISTERED IN WEST VIRGINIA BY REGION AND HIGHEST EARNED DEGREE
1969

Region	Diploma or Associate Degree	Bachelor's Degree	Master's Degree	Docto
Region 1 (Charleston)	1,113	80	15	0
Region 2 (Huntington)	684	30	14	0
Region 3 (Parkersburg)	822	52	9	1
Region 4 (Wheeling)	1,147	49	8	0
Region 5 (Clarksburg)	1,386	115	26	2
Region 6 (Martinsburg)	424	25	0	0
Region 7 (Buckhannon)	309	60	9	0
Region 8 (Beckley)	589	33	6	0
Region 9 (Logan)	174	2	2	0
Totals	6,449	446	89	3
Percentage of Total	92.3	6.4	1.2	0.

Source:

Nurse Inventory Data, January 1, 1969 - December 31, 1969, West Virginia State Board of Examiners for Registered Nurses, Charleston, West Virginia, 1970.

TABLE 2

NURSES REGISTERED IN WEST VIRGINIA BY REGION AND HIGHEST EARNED DEGREE
1969

	Diploma or Associate Degree	Bachelor's Degree	Master's Degree	Doctorate	Totals
ton)	1,113	80	15	0	1,208
ton)	684	30	14	0	713
burg)	822	52	9	1	884
g)	1,147	49	8	0	1,204
urg)	1,386	115	26	2	1,330
burg)	424	25	0	0	449
non)	309	60	9	0	378
)	589	33	6	0	628
	174	2	2	0	178
	6,449	446	89	3	6,987
al	92.3	6.4	1.2	0.1	100.0

ventory Data, January 1, 1969 - December 31, 1969, West Virginia State Examiners for Registered Nurses, Charleston, West Virginia, 1970.

nurse. On the other hand, one can expect that a degree would have been reported by the nurse if one had been acquired. The national average for nurses holding baccalaureate degrees is reported as almost 12 percent; the percentage reported held by West Virginia's nurses was 6.4 percent. Whereas about three percent of the registered nurses in the nation held master's and higher degrees, the percentage of West Virginia's licensees was 1.2. While Table 2 does not give consideration to other significant factors such as years of experience, nevertheless, the standard of master's degree preparation for administration, supervision, and teaching was established over a decade ago by the profession. Nurse Inventory Data, 1969 statistics demonstrate the status of educational preparation of nurses in administrative positions. Only 42 percent of the 137 administrators hold any degree at all, and the fact that less than eight percent of the 570 supervisors have even the minimum of baccalaureate degree is a matter of grave concern.

In public health nursing particularly, for which field neither associate degree nor hospital supported nursing programs prepare their graduates, the educational preparation of West Virginia's nurses was especially lacking. At least one year of special preparation and preferably a minimum of a baccalaureate degree has been a professional standard for public health nursing for over two decades. Nationally in 1968, 41 percent of the registered nurses in public health held an academic degree and almost three-fourths of the administrators, consultants, and supervisors in full-time positions had a baccalaureate or higher degree. In West Virginia, only 7.2 percent of the staff nurses, supervisors, and administrators in public health held a baccalaureate degree

TABLE 3

PERCENTAGE OF REGISTERED NURSES BY FIELD OF EMPLOYMENT AND BY REGION
1969

Region	Hospitals and Related Institutions	School of Nursing	Public Health	School Nurse	Industry	Private Duty	Office	Other
1	70.4	2.7	3.5	2.5	5.0	4.8	5.2	5.9
2	73.4	3.8	3.2	1.6	3.2	3.2	6.1	5.5
3	67.3	5.4	2.8	2.5	5.4	7.6	5.9	3.1
4	76.1	3.2	2.3	1.5	4.4	6.7	3.6	2.2
5	73.5	4.0	4.8	1.1	2.5	5.0	5.8	3.3
6	71.5	2.8	3.8	1.8	2.1	10.0	5.5	2.5
7	69.5	5.1	4.8	4.5	1.0	5.5	4.8	4.8
8	70.0	2.6	6.8	2.3	1.0	7.0	5.3	5.0
9	70.0	3.9	8.5	1.3	0.6	0.6	10.5	4.6
West Virginia	71.9	3.7	3.9	2.0	3.4	5.8	5.3	4.0
United States	65.3	3.5	-- 7.8 --		3.1	-- 18.0 --		2.3

and only 2.5 reported a master's degree. The educational preparation of nurses employed in hospitals, schools of nursing, and industry will be discussed later.

Fields of Employment

Nurses generally offer their professional service to several kinds of agencies: hospitals and related institutions, such as nursing homes and extended care facilities; nursing education programs (schools of nursing); public health agencies and boards of education; occupational health units in industries; individuals and families as independent practitioners in private duty; physicians' and dentists' offices; and others such as professional and community organizations. The percentages of nurses in these categories of employment in West Virginia vary to some degree from those shown for the United States.

Field of Employment	Percentage of Employed Registered Nurses	
	United States	West Virginia
Hospital and related institutions	65.3	71.9
School of Nursing	3.5	3.7
Public Health and School Nursing	7.8	5.9
Occupational Health	3.1	3.4
Private Duty, Office Nursing and Other	20.3	15.1

TABLE 4

PERCENTAGE OF REGISTERED NURSES IN WEST VIRGINIA AND THE UNITED STATES
BY FIELD OF EMPLOYMENT AND HIGHEST EARNED CREDENTIAL

Credential and Location	Hospital and Related Institutions	School of Nursing	Public Health and School of Nursing	Industry	Private Duty, Office and Other
No Degree					
W. Va.	89.5	46.1	90.5	97.1	92.0
U.S.A.	88.3	24.1	59.9	90.3	95.5
Associate Degree					
W. Va.	4.6	0.4	0.9	2.4	1.7
U.S.A.	2.3	0.7	0.8	2.0	0.6
Baccalaureate Degree					
W. Va.	5.7	33.3	8.3	0.5	4.7
U.S.A.	8.6	39.6	33.3	6.7	3.6
Master's Degree					
W. Va.	0.2	18.7	2.5	0.0	2.1
U.S.A.	0.8	35.6	6.0	1.0	0.3

Sources: Nurse Inventory Data, West Virginia Board of Examiners for Registered Nurses, 1970
ANA - Facts About Nursing, 1969.

Hospital Nursing

Hospitals, nursing homes, and extended care facilities continue to be the employers of the largest number of nurses both in West Virginia and the nation. As shown in the previous table, West Virginia's hospitals employ even a larger percent (71.9 percent) of West Virginia's nurses than hospitals and related institutions nationally, where 65.3 percent of the registered nurses work. The number of hospitals, nursing homes, and beds provided by these agencies in West Virginia can be found on Figure 2. Hospital administrators in West Virginia who responded to a national AHA-PHS survey in 1966 indicated a need for over 900 more professional nurses than were employed at the time of the survey. In addition, the administrators reported a need for 450 more practical nurses and 775 more aides, orderlies, and attendants. Considering an average net gain of about 100 nurses a year in the State, it would have taken a nine years' supply to meet this immediate request of the hospital administrators. It is of interest to note that statistically, at least, a typical West Virginia nurse would probably be a general duty nurse (60 percent) employed in a hospital, (71.9 percent) married, hold a diploma in nursing (88.8 percent), and be 40.2 years old (median age reported by ANA).

Problems confronting the directors of nursing are many. A major concern is one of developing an effective staffing pattern. It would be helpful if ideas concerning staffing patterns could be shared among directors. Replies to a questionaire sent to each Director of Nursing Service in the State in early 1970 revealed that the majority would favor a mechanism

for meeting together with a consultant to share ideas related to nursing service. Nurse Inventory Data, 1969 statistics reveal that in the State's 93 hospitals, only 34 of the administrators of nursing service, 27 of the 500 supervisors, and 52 of the 600 head nurses hold a degree.

Public Health Nursing

In 1968, West Virginia reported 270 nurses working in public health nursing. Of these, 262 were employed full time and eight part-time. There has been a steady improvement nationally in the ratio of public health nurses to population from 18.8 public health nurses per 100,000 persons in 1966 to 21.3 in 1968. West Virginia's ratios have increased also, from 11.5 in 1966 to 14.5 in 1968, but it is obvious that these ratios fall short of the need for public health nursing in the state. The ratio in 1968of 14.5 nurses per 100,000 population is equivalent to about 7,000 persons to one nurse. Nationally, there were 4,700 persons per nurse 1968. The educational preparation of nurses employed full time in public health work in state and local agencies has increased steadily in the number of nurses holding baccalaureate or highe degrees. About 41 percent of these nurses hold an academic degree nationally. In West Virginia

Number of Registered Nurses Reported Employed by County Heal Departments and Home Health Agencies, 1970

Region	County Health Departments	Home He Agenci
1	20	
2	14	
3	13	
4	14	6
5	34	4
6	9	
7	12	3
8	13	12
9	11	1

236 nurses registered in 1969 reported themselves as public health nurses and 119 as school nurses. As stated previously, of the 236 nurses employed in public health nursing, only 7.2 percent reported holding baccalaureate degrees and another 2.5 percent reported master's degrees. These percentages are obviously far below the national statistic of 40 percent. Whereas 60 percent of the nurses employed in public health nationally held diplomas or associate degrees, there were over 90 percent in West Virginia with these credentials.

Nurse Faculty Members in Schools of Nursing

There are 219 nurse-faculty members registered in West Virginia. This number represents 3.7 percent of the employed nurses in the state. In the nation, 3.5 percent of the nurse labor force represents nurse faculty. The 1968 national faculty survey[1] reveals that almost half (48 percent) were employed by diploma programs. Somewhat less than a quarter (22 percent) taught in baccalaureate and higher degree programs and practical nursing programs employed another 22 percent. The remaining 8 percent taught in the associate degree programs of the nation. Excluding practical nursing programs, 60 percent of the full-time faculty taught in diploma programs, 11 percent in associate degree, and 29 percent taught in baccalaureate and higher degree programs.

The most recent West Virginia state survey[2] of faculty members is limited to programs which

[1]National League for Nursing, Nurse-Faculty Census 1968, No. 19-1331

[2]West Virginia Board of Examiners for Registered Nurses, Tentative Report, 1970

prepare registered professional nurses. This survey (presently incomplete) showed that 48.5 percent of the State's full-time faculty members were employed in diploma programs, 23.5 percent in associate degree programs, and 28 percent in baccalaureate degree programs. The percentage of faculty employed full-time is about the same in the nation (85 percent) and the State (82 percent).

In baccalaureate and higher degree programs nationally, 80 percent of full-time faculty held master's degrees and 6 percent had earned doctorates. Among the baccalaureate programs in West Virginia, about 76 percent held master's degrees and almost 3 percent held doctorates. State-wide, 34 percent of all nurse faculty members held master's degrees and 1.5 percent held doctorates. Those holding a baccalaureate degree represented 39.4 percent and 25 percent had less than a baccalaureate.

While the number of diploma programs is declining, both in the nation and the State, about 20 percent of faculty members in the nation's diploma programs held master's degrees as compared to 9 percent in West Virginia's programs. In associate degree programs which are increasing both in the nation and in the State, almost 62 percent of the nation's faculty had a master's degree, while in West Virginia, only 35.5 percent had earned this degree.

While the baccalaureate degree has been advised as the minimum preparation for faculty in West Virginia, the national professional organizations and the national accrediting service

recommend a master's degree.

Administrators of the various schools of nursing stated an estimated need for 60 additional full-time faculty members within ten years, of which 25 are needed in academic year 1970-1971. Considering current shortage as represented by 29 presently unfilled positions, this need appears to be unattainable without additional incentives to teach in these programs. As diploma programs continue to close, qualified faculty from these programs may be able to partially fill the critical need for prepared faculty in the collegiate programs. Considering the fact that only 50 percent of the faculty members presently employed in hospital schools hold a minimum of a baccalaureate degree however, the suggestion that they might transfer to other programs does not appear too helpful without any opportunity to take additional preparation.

Another national accreditation recommendation for faculty, in addition to requiring a master's degree in nursing, is that the degree be in the clinical specialty for which the faculty member is responsible. Of 44 faculty members in the State who reported teaching medical-surgical nursing, only 14 had special preparation. Similarly, only 10 of 22 had special preparation in maternal-child nursing. Seven of 10 faculty teaching psychiatric nursing and 5 of 7 teaching public and community health nursing were prepared in their teaching fields.

Administrators and faculty alike stated that, in their opinion, one major deterrent to

obtaining an appropriate degree was the lack of a degree granting institution within commuting distance in which master's preparation might be obtained. While master's degrees are offered in neighboring Pennsylvania, Ohio and Kentucky, the locations of the institutions in these states may, for most West Virginians, not be commuting distances. Faculty who teach in professional nursing programs are not required to hold State certification as do those who teach in technical or adult education.

The West Virginia State Board of Education, Division of Vocational Technical and Adult Education, requires that registered nurse instructors who teach in health occupations programs obtain five credits for annual renewal of their teaching certificate. These credits may be obtained in subjects approved by the Division in any college in West Virginia.

Occupational Health Nursing

Industrial or occupational health nurses represent 3.4 percent of the registered professional nurses employed in West Virginia in 1969. As might be expected, regions within the State which are more highly industrialized show a higher percentage of these nurses than those which are more rural in nature. Region 3 ranks highest with 5.4 percent of its nurses employed in industry, and Region 9 ranks lowest with less than 1 percent employed in industry. In comparison with the nation, West Virginia has a somewhat higher percentage of its nurses, 3.4

as compared to 3.1 percent employed in industry. It has been recommended that there be one nurse for every 500 employees up to 2,000 and an additional nurse for every 1,000 employees. Since most of West Virginia's industries are small, it is doubtful that workers in small industries enjoy the benefits of nursing services. It is conceivable that several small industries in an area could employ a professional nurse on a rotating basis. Table 4 shows that only 0.5 percent of the industrial nurses in the State held baccalaureate degrees as compared to 7 percent nationally. Considering the need for industrial nurses to exercise independent judgements and the need for these nurses to function as health teachers, education opportunities for updating their knowledge and broadening their skills would probably be utilized if these were available.

Private Duty Nursing

Private duty nursing defined as the care of a single patient on a continuing full-time basis has gradually decreased as a field of employment for the registered professional nurse. Nationally, the percentage of nurses so employed decreased from 14 percent in 1960 to 11 percent in 1966. Since 1966, counts made on private duty nurses in national surveys have been combined with office nurses and "others" thus making it difficult to obtain an exact percentage. In West Virginia, in 1966, about 6 percent of the employed registered nurses reported private duty as their field of employment.

Because private duty nursing is relatively expensive, it is likely that fewer nurses

would be so employed in an economy which by and large cannot support luxurious health services. Statistics obtained by the ANA from nurses' registries indicate a downward trend of employment in this field. Registries also report a shortage of private duty nurses. In 1968, registries reported about 520,000 calls for private duty nurses from hospitals and homes. Only 310,000 calls, about 60 percent, could be filled. Interestingly, 98.4 percent of the calls came from hospitals and 1.6 from private homes. The licensed practical nurse seems to be filling the gap in private duty left by the professional nurse. In 1967, 13.7 percent of licensed practical nurses were reported by ANA working in this field.

Licensed Practical Nursing

Because nursing activities to be effective must be harmoniously performed by nurses at various levels of preparation, it is difficult to look at nursing as a whole without giving some consideration to the supply and education of the licensed practical nurse. According to the 1967 ANA Inventory, which gives a complete statistical picture of practical nursing nationally, 73.5 percent, or 252,522 of the 343,635 licensed practical nurses in the United States in 1967, were employed in nursing. In West Virginia, 82.1 percent of the 2,821 licensed practical nurses were employed by hospitals, 12 percent by nursing homes, a little over 1 percent by public health departments, and less than 1 percent by industry. Approximately 14 percent were private duty nurses and approximately 6 percent worked in offices or other fields. In West Virginia, proportionately

more (70 percent) were employed by hospitals, and proportionately less (4 percent) by nursing homes, less than 1 percent by public health, and less than one-half percent by industry. However, compared with national figures, a greater percentage of licensed practical nurses (over 16 percent) were private duty nurses and approximately 6 percent worked in offices and other fields. The relatively small percentage of licensed practical nurses in nursing homes is significant in light of the finding of the Governor's Task Force that the State was lacking in health services for the elderly and chronically ill. The following table shows the number of nurses graduated from registered nurse and practical nurse programs from 1962 through 1969.

GRADUATES AND PERCENTAGE OF TOTAL NUMBER OF GRADUATES FROM REGISTERED NURSE AND PRACTICAL NURSE PROGRAMS, WEST VIRGINIA, 1962-1969

Year	Registered Nurse Graduates	Percentage of Total	Practical Nurse Graduates	Percentage of Total	Total Number of Graduates
1962-63	306	74.6	104	25.4	410
1963-64	302	62.9	178	37.1	480
1964-65	268	60.0	179	40.0	447
1965-66	355	64.5	195	35.5	550
1966-67	367	57.5	271	42.5	638
1967-68	364	53.9	311	46.1	675
1968-69	375	-	-	-	-

The question might be raised as to what proportion of each level of nurse personnel is needed to provide the best possible health care to West Virginia's citizens and on the basis of such a proportion, other things being equal, to determine the number of graduates and programs needed.

Mobility of Nurses

In considering planning for increased numbers and improved preparation of nurse personne for West Virginia, it is necessary to review several factors. Logically, concern should first be directed toward education including the reservoirs of potential students, the total educational opportunities available in the State, the types of available educational opportunity to achieve essential balance in levels of skill, and other related factors. But however logical and necessar it may be to focus attention on preparation of nurse personnel through West Virginia's schools of nursing, it is essential also to acknowledge the extreme mobility of our society.

Like society in general, nurses are a highly mobile segment of society. This mobility factor has been studied carefully by Margaret Wyatt[1] both as to its effect on total nurse supply in West Virginia, and more particularly to determine potential means for increasing retention and inflow of nurses and for minimizing outward migration.

The following table shows that from 1962 through 1969 a total of about 3,500 registered

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[1]Margaret Wyatt, Where and Why Do They Go? A Study of Nurse Migration.

nurses were endorsed to other states as compared to about 1,800 endorsed into West Virginia from other states - a loss of 1,700 nurses during this period.

ANNUAL NET REPLACEMENTS IN PROFESSIONAL NURSE SUPPLY, 1962-1969

	1962	1963	1964	1965	1966	1967	1968	1969
Licensed by examination in WestVirginia	316	273	288	249	345	331	315	336
Endorsed in from other states	180	205	210	212	211	217	236	299
Licensed by waiver				74	17			
	496	478	498	535	573	548	551	635
Endorsed to other States	369	336	410	425	457	498	449	528
Net Gain*	127	142	88	110	116	50	102	107
Graduates from Programs in West Virginia	289	306	302	268	355	367	364	375

*The annual attrition rate of approximately 3 to 5 percent must be deducted from the gain shown because of illness, death, and other causes.

Further review of the data indicates that compared to the number of students graduated each year from West Virginia's programs, there is a net gain annually of only about one-fourth to one-third of this number. For example, in 1968, 364 students were graduated, but there was a net gain of only 102 registered nurses to the State's reservoir of professional nurse manpower. Questions might reasonably be raised as to how this loss might be lessened. Some groups might also question whether in view of this

oss, West Virginia should continue to expend its energies in preparing more graduates than it now produc

It is significant to observe the data regarding licensed practical nurses and particularly to ompare the migration of licensed practical nurses with that of registered nurses. Only a small portion he total number of practical nurses are licensed in West Virginia by endorsement from other states. Whi he number in this category may have increased, there is evidence that licensed practical nurses who are rimarily prepared in West Virginia work in West Virginia.

ob Incentives and Job Motivation

This report does not have sufficient supporting evidence to analyze in detail or to generalize bout the reasons for shortage of professional nurses in the State. Several factors of significance may e the status of nursing as a career, the degree to which jobs are satisfying, and nurses' salaries. areer opportunities for women in fields other than nursing are expanding rapidly and compete with nursin ecause of higher status and salaries.

Some information on nurses' salaries in hospitals and in public health is available on a tate-wide basis. The West Virginia Nurses' Association's Economic and General Welfare Committee urveyed doctor's offices, hospitals, industries, nursing homes, school health programs, and ollege nurse faculty members in February, 1970. There was a relatively small return of information rom hospitals, but indications were that there is some progress toward the American Nurses'

Association's minimum salary pronouncement in 1968 of a beginning salary of $7,500 for those without and $8,500 for those with a baccalaureate degree. Thirty-five hospitals reported in 1968 and 37 did so in 1970. The average monthly salaries reported for an R.N. with no experience was $504 in 1968 and $547 a month in 1970. The salary for the R.N. with experience was $511 in 1968 and $566 in 1970 The 1970 returns also revealed the average salary for the head nurse to be $605 and $657 for the supervisor. Apparently, no salary differentials were made on the basis of a nurse's basic education

Information on salaries to public health nurses was made available by the West Virginia State Department of Health. Public health nurses are classified from Public Health Nurse I through Public Health Nurse V. The salary ranges for Public Health Nurse was from $435 through $635, Public Health Nurse II from $540 through $635, and for Public Health Nurse III from $600 through $670. The range for Public Health Nurse IV was from $670 through $745, and Public Health Nurse V received $825. Consultants had salaries from $870 through $965. The most recent national salary survey in public health nursing reveals the following information for 1969.

Type of Agency	Median	Range of Middle 50 Percent
Local official health agency		
Nurse Director	$11,600	$10,508 - 13,650
Supervisory Nurse	9,686	8,513 - 11,013
Staff Nurse	7,712	6,747 - 8,937
PHN, fully qualified	8,572	7,371 - 9,549
Other registered nurse	7,210	6,507 - 8,171

Type of Agency	Median	Range of middle 50 percent
Board of Education		
Supervisory Nurse	$11,600	$9,500 - 13,500
Staff Nurse	8,101	6,665 - 9,690

Source: National League for Nursing, Salaries in Public Health Nursing Services - 1969, Nursing Outlook, December, 1969, pp. 72-75

It is of interest to note that the Kanawha County School's Health Service salary schedule for 19 and for 1970 offers the beginning Class I R.N. with a B.S. degree or equivalent $600 per month a Class II R.N. $570 a month for 10 pay periods. After 11 years of experience, the salaries are $682.50 and $652.50 respectively. No other salary schedules were available for comparisons. Th League salary survey gives information on salaries in non-official health agencies as well as local Official Agencies and Boards of Education by size of population served and regions of the nation. Median salaries increased as populations served increased. The median salary for a staff nurse in population group of 500,000 and over was $8,599 as compared to $6,647 in a population group under 50,000. Likewise, the median salaries for staff nurses in Boards of Education ranged from $8,956 in populations of 500,000 and over. The survey also shows the medi annual salary for licensed practical nurses in public health to be $5,327.

Salaries for faculty members were reported in a survey made by the West Virginia Board of Examiners for Registered Nurses in early 1970.[1] The range of monthly salaries in hospital programs was from $540 for assistant instructors to $875 for teachers with master's degrees. Yearly salaries for faculty in associate degree programs varied according to rank. Instructors ranged from $6,003 to $9,300, assistant professors from $7,800 to $11,000, and professors from $12,000 to $15,000. Salaries in baccalaureate degree programs ranged from $6,200 to $13,000.

Nationally, in September 1968, the median annual salary of a full-time nurse faculty member teaching in a program which prepares registered nurses was $8,820 and $8,400 for those teaching in practical nursing programs. Faculty in junior colleges had a median salary of $9,600. The median salary in colleges was $9,000 and in hospital supported registered nurse schools the median was $8,340. In terms of educational preparation, median salaries for faculty in R.N. schools ranged from $7,500 for those without a degree to $9,900 for those with a master's degree.[2]

No information was available on salaries paid industrial nurses in the State. The U.S. Department of Labor reported a wide range of weekly salaries. Information on salaries is given

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[1]Tentative Report, West Virginia Board of Examiners for Registered Nurses, op. cit.

[2]American Nurses' Association - 1969, Facts About Nursing, pp. 138-148

for certain metropolitan areas. Charleston is included in the information and is reported to offer industrial registered nurses $130.00 a week for a 40 hour week. This salary compares favorably with the range of the middle 50 percent of the salaries of about 10,000 nurses, which was reported nationally as from $116.00 to $139.50 a week.[1]

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[1]U.S. Department of Labor, Bureau of Labor Statistics

SECTION IV

NURSING EDUCATION IN WEST VIRGINIA.....

STUDENTS AND PROGRAMS

SECTION IV

NURSING EDUCATION IN WEST VIRGINIA...STUDENTS AND PROGRAMS

Students continue to be the major source of new nurse manpower in West Virginia. In Section III it was seen that the annual average gain of registered nurses equals about one-third of the annual graduations from West Virginia's schools of nursing. Because students are the mainstay of nurse manpower, it seems appropriate to consider such factors as the number of students entering nursing from high school; admissions to, enrollments in, and graduations from schools of nursing; dropout rates (attrition) of students and reasons such as financial needs of students or change of interest; numbers, types, and size of nursing programs; and the cost of nursing education.

High School Graduates Entering Nursing

A statistic which gives some notion of how attractive nursing is as a career is the number of students who enter nursing per 1,000 female high school graduates. It is recognized that some students who are admitted to nursing programs are from out of state, that a few students are not female, and that some students enter nursing late in life. These three factors alone tend to make the statistic an overestimate. Nevertheless, the statistic is helpful in comparing from year to year how well nursing attracts high school graduates. The following table was

made by using the number of female high school graduates each year which was furnished by the West Virginia State Board of Education and using the number of students admitted annually to nursing programs which was supplied by the West Virginia Board of Examiners for Registered Nurses.

Year of High School Graduation	Academic Year of Admissions to Nursing	Number of Admissions to Nursing* per 1,000 Female High School Graduates
1961	1961-1962	44
1962	1962-1963	49
1963	1963-1964	50
1964	1964-1965	56
1965	1965-1966	46
1966	1966-1967	39
1967	1967-1968	34
1968	1968-1969	47

*Programs preparing registered nurses

The table shows that the attractiveness of nursing to female high school graduates seemed to be diminishing to the point of being critical in 1967-1968. The Committee considered the question of recruitment into nursing programs extensively. Its recommendations regarding recruitment can be found in Section VI, page 3.

Admissions, Graduations, and Enrollments

Over the past decade, admissions to programs of nursing which prepare registered nurses have increased substantially from 488 in 1961-1962 to 616 in 1968-1969. The numbers of students admitted to the three types of programs which prepare registered nurses can be seen on Table 5. There has been a marked decline in admissions to diploma programs and a significant increase in admissions to associate degree programs. Admissions to baccalaureate degree programs have increased steadily. Over the

TABLE 5

BASIC NURSING PROGRAMS IN WEST VIRGINIA, NATIONAL LEAGUE FOR NURSING ACCREDITATION, ADMISSIONS, GRADUATIONS AND PERCENT OF TOTAL NUMBER GRADUATED, 1961-1969

Academic Year	Number Programs	National League for Nursing Accreditation	Admissions	Graduations	Percent of Total Number Graduated
		Baccalaureate Programs			
1961-2	3		75	16	6.0
1962-3	3		105	20	6.5
1963-4	3	1	89	44	14.0
1964-5	3	1	216	44	17.0
1965-6	3	1	97	59	17.0
1966-7	3	1	102	43	11.7
1967-8	3	1	110	57	15.7
1968-9	3	1	129	58	14.8
		Associate Degree Programs			
1961-2	1		24	21	7.0
1962-3	1		27	16	5.0
1963-4	3		35	20	7.0
1964-5	3	1	88	18	7.0
1965-6	3	1	94	54	15.0
1966-7	4	1	136	53	14.4
1967-8	5	1	201	53	14.6
1968-9	7	2	258	105	26.7
		Diploma Programs			
1961-2	10	6	389	252	87.0
1962-3	10	6	358	270	88.0
1963-4	10	6	380	238	78.8
1964-5	9	5	386	206	76.0
1965-6	8	5	468	242	68.0
1966-7	8	5	291	271	73.9
1967-8	8	5	144	253	69.7
1968-9	5	3	229	230	58.5

Sources: West Virginia Board of Examiners for Registered Nurses
West Virginia Board of Examiners for Licensed Practical Nurses

eight year period from 1961 to 1969, admissions in baccalaureate programs rose from 75 to 129. Associate degree program admissions rose from 24 to 258 while diploma program admissions fell from 389 to 229. These trends can be expected to continue as opportunities for associate degree programs increase and as diploma nursing education diminishes. In view of the general decrease in admissions during the past several years, the increase in admissions in West Virginia in 1968-1969 is encouraging. Enrollments for the same period are shown in Table 6.

Type of Program	1961-1962		1968-1969		Percentage Change
	Admissions	Percentage	Admissions	Percentage	
All Programs	488	100.0	616	100.0	+ 26.2
Diploma	389	79.7	229	37.1	- 41.1
Associate Degree	24	4.9	258	41.9	+975.0
Baccalaureate Degree	75	15.4	129	21.0	+ 72.0

Over the same period of time, graduations have increased from 289 in 1961-1962 to 393 in 1968-1969. Table 5 shows graduations for each year of the nine year period. It is interesting to note that the percent of graduates from diploma programs has decreased to 58.5 percent of the total number. In 1961-1962, 87 percent of the graduates came from diploma programs.

Dropouts from Nursing Programs

When a student drops out of a nursing program, her withdrawal represents a waste in many ways. Not only is there a waste of money spent by both the student and the supporting institution

TABLE 6

ENROLLMENT IN PROGRAMS WHICH
PREPARE REGISTERED NURSES BY TYPE OF PROGRAM
1957 - 1969

Year	Type of Program			
	Diploma	Associate Degree	Baccalaureate Degree	All Programs
1957	1,089	-	72	1,161
1958	1,106	-	69	1,175
1959	1,043	-	79	1,122
1960	1,061	28	119	1,208
1961	984	45	173	1,202
1962	881	48	219	1,148
1963	869	57	271	1,197
1964	874	103	270	1,147
1965	924	144	245	1,313
1966	911	152	241	1,304
1967	777	243	250	1,470
1968	605	334	313	1,252
1969	570	450	330	1,350

Source: West Virginia State Board of Examiners for Registered Nurses

and a waste of the limited facilities for nursing education, but with the present shortage of well-qualified nurse faculty, there is a significant waste of the time and effort spent by the faculty member upon a student who does not complete her education. Nationally, the dropout rates for the three types of nursing programs are approximately 30 percent for diploma programs, 40 percent for associate degree programs, and depending upon the year that the baccalaureate student is identified as a nursing major, from 15 to 50 percent. These rates do not differ appreciably in West Virginia.

Studies have shown relationships between dropouts from nursing schools and many factors. Among these are ineffectual methods for predicting whether or not a prospective student will succee in a nursing program, disenchantment or disillusionment of the student with the nursing program, ar less importantly, in many instances, withdrawal for marriage or financial difficulties.

All of the nursing programs in the State tabulated the number of dropouts from each class for the academic years 1961-1962 through 1967-1968. Reasons stated by the various programs as causes for dropouts and the percentage of each are shown in the table below. Separate data are given for the three types of programs; namely, diploma, associate degree, and baccalaureate degree programs, as well as for all of the programs combined.

The two most frequently given reasons for dropping out of the nursing programs were scholastic failure (44.1 percent of all dropouts) and changes of interest (16.2 percent of all dropouts). These percentages alone do not offer all of the information which should be available for reaching decisions about ways to lower the dropout rate. Such decisions entail a knowledge of

Stated Reasons by Number and Percentage for Dropouts from Nursing by Type of Program

Stated Reasons	Diploma Programs		Associate Degree		Baccalaureate Degree		All Programs	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Scholastic Failure	275	42.4	119	58.6	52	33.1	446	44.1
Marriage	90	13.8	6	3.0	8	5.1	104	10.3
Change of Interest	96	14.7	44	21.7	24	15.3	164	16.2
Health	19	2.9	5	2.5	5	3.2	29	2.9
Personal	103	15.8	19	9.4	0	0.0	122	12.0
Financial	2	0.3	1	0.5	8	5.1	11	1.1
Other	67	10.1	9	4.3	60	38.2	136	13.4

what sort of courses did the nursing students fail, what assistance, guidance, and remedial help were the students given, as well as why did the student change her interest and in what direction. The relatively large percentage of reasons for dropping out in the "Other" category also indicates the need for a much more detailed analysis of the reasons why students withdraw from schools of nursing.

Only one percent of the reasons given for inability to continue in nursing was lack of finances. This may be due, in part, to the many sources of scholarship aid and grants available to students in West Virginia, and also to the great efforts made by interested professional and

community organizations in raising funds for needy students. A questionaire sent to schools of nursing to obtain 1967-1968 information on financial aid to students revealed that many students were receiving aid. Most of the respondents indicated that no student was turned away because of lack of finances.

Among the many listed resources of funds available to students were those which are Federally funded such as the Student Nurse Loan Program, the Educational Opportunity Grant Program, Professional Nurse Traineeships, National Defense Student Loans, and Work Study Funds. Among others stated were the West Virginia Professional Nursing Education Trust Fund. It would appear that a drastic cut in Federally funded aid could reverse the favorable status of the currently ample funds for nursing education.

Programs in Nursing

The past decade, 1961-1970, has been characterized by great changes in both the number and types of programs that prepare nurses. Nationally, vocational and technical programs that prepare practica nurses and collegiate programs that prepare registered professional nurses have gained in both number and size. The report of the U.S. Public Health Service Surgeon General's Consultant Group[1] in 1963 coupled with the ANA Position Paper have both been responsible for the change. West

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[1]U.S. Public Health Service, Toward Quality in Nursing: Needs and Goals. Washington, D.C., 1963.

Virginia has also experienced changes. During the decade 1961-1970, programs which prepare registered nurses in West Virginia have changed in numbers. Diploma programs have decreased from ten to five, whereas associate degree programs have increased from one to seven, and baccalaureate programs have remained at three. Practical nursing programs which increased nationally in the decade also increased in West Virginia from five programs in 1961 to 16 programs in 1969.[1]

The following programs were reported in operation in 1969:

Practical Nursing Programs

	Name of School	Location	Region
1.	Kanawha County Vocational School	Charleston	1
2.	MDTA Program in Practical Nursing, Central School	So. Charleston	1
3.	Huntington East High Vocational-Technical School	Huntington	2
4.	Wood County Vocational School	Parkersburg	3
5.	B.M. Spurr School of Practical Nursing	Glendale	4
6.	Harrison County MDTA Program in Practical Nursing	Clarksburg	5
7.	Monongalia County Vocational School	Morgantown	5
8.	Berkeley County Vocational School	Martinsburg	6

[1]American Nurses Association, 1969 Facts About Nursing, p. 169

	Name of School	Location	Region
9.	Davis Memorial Hospital	Elkins	7
10.	Fayette County MDTA Program	Boomer	8
11.	Raleigh County Vocational School	Beckley	8
12,	Summers County Vocational School	Hinton	8
13.	Mercer County Vocational School	Princeton	8
14.	Logan County Vocational School	Logan	9
15.	McDowell County Vocational-Technical School	Welch	9
16.	Mingo County Vocational-Technical School	Williamson	9

Programs for Registered Nurses

Diploma Programs

1.	Charleston General Hospital	Charleston	1
2.	St. Mary's Hospital*	Huntington	2
3.	Ohio Valley General Hospital*	Wheeling	4
4.	Wheeling Hospital*	Wheeling	4
5.	King's Daughters' Hospital	Martinsburg	6

Associate Degree Programs

1.	Morris Harvey College*	Charleston	1

*Accredited by the National League for Nursing

	Name of School	Location	Region
2.	Marshall University*	Huntington	2
3.	Parkersburg Center, West Virginia University	Parkersburg	3
4.	West Liberty College	West Liberty	4
5.	Fairmont State College	Fairmont	5
6.	Salem College	Salem	5
7.	Bluefield State College	Bluefield	8
	Baccalaureate Degree Programs		
1.	West Virginia University*	Morgantown	5
2.	Alderson-Broaddus College	Philippi	7
3.	West Virginia Wesleyan College	Buckhannon	7

*Accredited by the National League for Nursing

Size of Programs

The question is frequently raised as to how large a program in nursing should be. There is no one answer to this question because much depends on value judgements that must be made. Some persons believe that a small program is advantageous because of the special attention that students may receive. Considering the need for qualified faculty in each of the four major clinical areas, and a ratio of 1 faculty to from 8 to 12 students in the clinical areas, any

number of students less than this recommended number per faculty while advantageous to the student would not be optimum in terms of cost, at least. In can be shown from 1968 enrollment statistics that the programs in West Virginia were smaller than they were nationally.

Type of R.N. Program	Average Enrollment	
	United States	West Virginia
Baccalaureate Degree	172	104
Associate Degree	83	67
Diploma	102	76
All Types	109	78

Nationally, enrollments in each type of program which prepare registered nurses were greater than they were in West Virginia. For example, enrollments in baccalaureate degree programs were 65 percent, associate degree programs 24 percent, and diploma programs 34 percent greater in the nation than in West Virginia. In terms of all types of programs combined, programs in the nation averaged 31 more students per program than were found in West Virginia's programs. In light of the need to increase graduates in the State, one might ask whether it is more economical to increase enrollments by opening new programs or by expanding existing programs.

Accreditation

The degree to which nursing programs within a state are nationally accredited gives some indication of the quality of the state's programs. The National League for Nursing is the

accrediting agency for programs which prepare registered professional nurses as well as those which prepare practical nurses. The national accreditation status in 1969 of West Virginia's programs which prepared registered nurses can be seen from the following table.

Type of Program	Number of Programs	Number NLN Accredited
R.N. Programs:		
Diploma	5	3
Associate Degree	7	2
Baccalaureate Degree	3	1
All R.N. Programs	15	6

Only 6 of the 15 programs which prepare registered professional nurses or 40 percent were accredited by the National League for Nursing. To gain some perspective of these statistics, it must be said that not all of the Nation's programs are accredited. In fact only 20 percent of the associate degree programs in the nation are NLN accredited whereas, 21 percent of West Virginia's programs are accredited. On the other hand, only 60 percent of the State's diploma programs are accredited compared to 71 percent nationally and only 1 of 3 (33.3 percent) of the State's baccalaureate degre programs is accredited compared to 70 percent nationally.

For a student who lives in a region without a League accredited school and who is seeking to enter an accredited program, it may be more advantageous to seek admission to an accredited school in an adjacent state.

State Licensure Examination

Another yardstick of the quality of West Virginia's programs is the ability of their graduates to pass the licensure examination to practice as a registered nurse. West Virginia uses the State Board Test Pool Examination, as do all of the other states. The examination, which is administered by the State Board to graduates of each of the three types of programs which prepare registered nurses, is designed to determine whether or not the graduate has achieved minimum safety to practice nursing. However, one would assume that among those graduates who pass the examination, scores indicate a measure of relative level of achievement of nursing knowledge and practice. The average achievement of graduates who have taken the examination in West Virginia has increased gradually. Table 7 shows the results of candidates who took the licensure examination in West Virginia for the first time from 1960 through 1969. Judging from a pass-fail basis, candidates who took the test in the last eight years have shown some improvement over those who took the test in 1960 and 1961.

Practical Nursing Programs

West Virginia as well as the rest of the nation has within the last decade experienced a tremendous increase in both the number of educational programs to prepare practical nurses and in the percentage of nursing care which is given by practical nurses. Historically, there has been a close correlation between Federal funds for practical nursing education and the

TABLE 7

RESULTS ON STATE BOARD TEST POOL EXAMINATION
TAKEN FOR THE FIRST TIME BY WEST VIRGINIA
CANDIDATES, 1960-1969

Year Taken	Total No. of Candidates	Number Passed	Percent Passed	Number Failed	Percent Failed
1960	294	219	74.5	75	25.5
1961	295	189	64.1	106	35.9
1962	267	227	85.0	40	15.0
1963	273	225	82.4	48	17.6
1964	281	232	83.6	49	17.4
1965	241	203	84.2	38	15.8
1966	345	286	82.9	59	17.1
1967	306	256	83.7	50	16.3
1968	325	275	84.6	50	15.4
1969	352	292	83.0	60	17.0
1960-69	2,979	2,404	80.7	575	19.3

Source: West Virginia Board of Examiners for Registered Nurses

increase of practical nursing programs and students. Most of the programs are administratively related to Vocational-Technical Education and offered in vocational or technical tax-supported schools. In this type of administration, the programs follow established criteria developed by the schools. National accreditation is available from several organizations. The national accreditation which is offered by the National League for Nursing has not been obtained by any of the programs in West Virginia. The following table shows growth in numbers of programs, admissions, and graduations:

Admissions, Graduations, and Programs of Practical Nursing
1961-1969

Academic Year	Number of Programs	Admissions	Graduations
1961-62	5	193	149
1962-63	6	234	104
1963-64	8	273	178
1964-65	8	300	179
1965-66	16	413	195
1966-67	16	512	286
1967-68	16	468	327
1968-69	16	418	303

Sources: American Nurses Association, Facts About Nursing. New York (1967, 1968, 1969 editions)
National League for Nursing, State Approved Programs of Practical Nursing - 1970. New York, 1970.

Significant to the quality of patient care and of extreme importance to planning education for nursing in the future is the fact that throughout the decade the percentage of graduates from practical nursing programs has grown from approximately 25 percent to almost 50 percent of the graduates from all programs. It must also be recognized that practical nurse programs can produce graduates at a faster rate since the programs are one year in length rather than the two, three or four or more years required in registered nurse programs. As practical nursing graduates continue to grow in numbers, there is a need for careful planning for numbers of registered nurses who will be in key positions of supervising and offering consultation to practical nurses.

Statistics for practical nursing programs in West Virginia show that compared with programs that prepare registered nurses, practical nursing students have a lesser tendency to drop out of the program. During the years 1963 to 1968, the average State-wide rate of practical nursing student dropouts was 21 percent. In several programs in which the dropout rate was below the State average, there were indications that the students tend to be older than do students entering other practical nursing programs and most of the registered nursing programs. There are indications as well that practical nursing students may have fewer alternative educational programs available to them than do the registered nursing students.

The following table which is based upon statistics from 1963 to 1968 obtained from the various programs, gives the percentage of all practical nursing dropouts by reason for dropping out. As with students in programs that prepare for registered nursing, the most frequent reason

for dropping out of a practical nursing program is scholastic failure. The relatively high percentage of practical nursing students who drop out for health or personal reasons could well be related to socioeconomic differences between the students who enter programs which prepare registered nurses and those who enter programs which prepare practical nurses.

Percentage of Dropouts from
Practical Nursing Programs
by Reasons, 1963-1968

Reasons Stated for Dropping Out	Percentage
Scholastic failure	35.9
Marriage	5.7
Change of Interest	6.0
Health	19.1
Personal	20.3
Financial Need	2.2
Other	10.8

Cost of Nursing Education

One type of data which is essential to planning for any sort of educational program is lacking for nursing education in West Virginia, namely data on the cost of nursing education.

Although some data are available on what it costs the student for tuition and fees in a nursing program, it has been shown repeatedly that tuition and fees do not cover the cost to the educational institution for educating the nursing student. National studies have shown that even though general education operating costs are known, operating costs for nursing programs differ from those for other types of education. However, results of other studies present convincing evidence that the educational institution is apt to invest $4,000 or more to graduate a student in a registered nursing program.

A nearby state has recently done a state-wide study of the cost of operating all of the nursing programs in higher educational institutions in that state. This study[1] could serve as a model for a study in West Virginia.

The trend in West Virginia to close diploma programs may be desirable if the money spent by a hospital to operate its nursing program is used to provide better health services for patients.

One of the previously cited nursing education problems, namely the out-migration of nursing graduates, deserves special attention in terms of its financial implications. If each registered nursing graduate represents an investment of $4,000 in nursing education

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[1]Tennessee Higher Education Commission, The Cost of Collegiate Nursing Education in Tennessee. Nashville, Tenn., 1969.

operating costs, the present annual registered nurse graduates represent an investment in excess of $1,700,000. If one-half of these graduates migrate out of the State or for some reason do not practice in West Virginia, this represents a loss of between $800,000 and $900,000 invested in their education.

It seems obvious that in addition to obtaining data about program costs, there is a need to find out periodically why graduates of West Virginia nursing programs do not practice nursing in West Virginia. Could they be induced to remain in the State, and if so, how? Wyatt's[1] and other studies commonly show that much of the migration of registered nurses is due to the fact that practicing nurses are typically secondary sources of family income and that the husband, not the nurse to whom he is married, determines the direction of migration.

If, as is probably true, source of family income is a significant factor in the loss of nurse manpower from West Virginia to other states, there are implications for the development of programs for greater economic development in the State or for recruitment of more persons who will not be secondary sources of family income.

Career Ladder Concept

One economical and highly profitable method of adding to the supply of highly skilled and professional health manpower is to upgrade from within the ranks those who already hold less skilled and sub-professional positions in the health field. In the area of nursing,

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[1]Margaret Wyatt, Where and Why Do They Go? Op. cit., pp. 15-16.

there may be workers on one level who have both the desire and ability to function on a higher level. Frequently they are reluctant to do so beacuse existing educational programs require them to "go back to the bottom" and with great expenditure of time and money to start all over again. In some states other than West Virginia it has been demonstrated in various types and levels of nursing education that for some of these aspirants starting in all over again is not absolutely necessary. Moreover with careful evaluation of the aspirant's nursing skills and knowledge the aspirant can be fitted into an educational program to prepare for a higher rung on the nursing career ladder without any danger that quality will suffer in any way.

Considering West Virginia's need for more professional nurses, more nurses with baccalaureate and higher degrees, it seems appropriate at this point to explore the career ladder concept as one of the ways of upgrading both nursing and nurse practitioners on any level who have the ability and motivation for a higher level of practice.

Three proposals which have been made by educators or institutions in the state are in harmony with the career ladder concept. One proposal is that of a program for recruiting educationally disadvantaged students into an "R.N." nursing course and providing the assistance and remedial instruction needed to bring these students up to the scholastic level of the other students. A second proposal is to provide the semi-professional (licensed practical nurse) personnel with the opportunity to receive college credit for academic work completed by means of an audio-tutorial system. The third proposal is to provide the practical nurse the

opportunity for advancement and attainment of the associate degree in nursing leading to an opportunity to qualify for licensure as a registered nurse in less than two years.

Educational Opportunity for Graduates of Diploma and Associate Degree Programs

Organizations and researchers who have studied the problems of nursing and nursing education generally agree that many of these problems could be solved if more practicing nurses held at least a baccalaureate degree in nursing. The trend in collegiate and university schools of nursing throughout the nation is to develop programs and procedures whereby graduates of associate degree and diploma nursing programs can obtain the baccalaureate degree in nursing. By means of challenging examinations and other evaluations, the baccalaureate candidate who already is a registered nurse is fitted into the program along with those who will obtain their registration after the degree is obtained.

In 1968, in the United States, 14 of every 1,000 registered nurses with less than an baccalaureate degree were enrolled in a collegiate or university school of nursing. In the same year, only four of each 1,000 of West Virginia's registered nurses with less than a baccalaureate degree were so enrolled. The disparity is further compounded by the fact that a relatively large percentage of the State's practicing registered nurses have less than a baccalaureate degree.

Although there are three state approved West Virginia nursing programs which offer baccalaureate degrees, according to NLN records, the only nationally accredited one of the three

programs admits registered nurses into the program. Even if the one program which accommodates registered nurses were capable of unlimited expansion, it would be extremely difficult for registered nurses in many of the other regions of the State to attend the program because of distances that would have to be covered in commuting and the mountain terrain. Although there are additional programs and facilities that offer continuing education to the registered nurse, a meaningful baccalaureate degree requires a total program of studies which cannot be obtained through continuing education. As the situation remains at present in the entire State of West Virginia, recently published statistics show a single program which offers a baccalaureate degree to registered nurse students with a total enrollment of 16 full-time and 8 part-time students and which in 1968,[1] conferred a total of two baccalaureate degrees to nurses who were registered nurses before entering the program.

Since that time, an extended campus has been located in Region 3 for assisting the registered nurses in that area without a baccalaureate degree to obtain the necessary requirements for the degree.

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[1]American Nurses' Association, 1969 Facts About Nursing. New York, 1969.

SECTION V

LEADERSHIP IN NURSING

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Implications for the need for leadership development among the nurses in West Virginia go beyond the areas of nursing education and nursing service. As has been pointed out here and in the report of the Governor's Task Force, the State has many types of problems which pertain to health and the delivery of health services. Solution of these problems requires community leadership by persons who have at least a general knowledge of the area of health. Although nurses, because of their knowledge, would appear to be eminently suited to leadership in planning for community health, often they seem to be lacking in skills of leadership within the communities in which they live and practice. The State system for comprehensive health planning had, in October 1969, three nurses on the State Advisory Council, but only one-half of the 14 subcommittees established by the Council had a nurse member.

There are, however, some examples of nurses exerting leadership for community planning, an outstanding example of which is the West Virginia League for Nursing's Committee on Community Planning. Their efforts and their interactions with other organizations, institutions, and agencies toward the establishment of a Psychiatric Nursing Educational Unit at Weston State Hospital illustrate much that can and should be contributed by nurses to community health planning throughout the State. The Weston State Project, which involved considerable study of the feasibility and need for

such an educational unit offers benefits in the form of better care for mental patients as well as improved clinical experience for students in West Virginia's nursing programs. Special efforts made by Mrs. Selma Brawner of West Virginia Wesleyan College made the Weston project a reality.

There are probably many other examples of leadership and cooperative planning which remain unrecorded. The West Virginia Nurses' Association has taken leadership in the development of joint statements on coronary care with the West Virginia Hospital Association, West Virginia Medical Association, and the West Virginia Board of Examiners for Registered Nurses. The Board has also initiated action to improve the inventory data related to nurses registered in the State.

A somewhat different aspect of leadership is illustrated by the nurse exerting leadership on other members of the health team, patients, and their families to improve the quality of patient care. As has been pointed out previously in this report, West Virginia is relatively deficient in health manpower and health care facilities as compared with other parts of the United States. Some compensation for the deficiency can be obtained when the nurse is skilled at extending her knowledge through direction of non-professional health workers and by educating patients and their families. To do so, the nurse must constantly update and upgrade her own knowledge as well as improve her leadership skills. Implications for this type of leadership development include two types of continuing education for nurses, namely skill in clinical proficiency and skill in interpersonal relations.

A 1970 progress report on Continuing Education in Nursing at West Virginia University describes a comprehensive program in continuing education for the development of both types of skills. The

use of state-wide television and tele-lecture in presenting the program appears to be particularly well suited to a setting such as the State of West Virginia. Evaluation of the program should offer valuable information as to ways of providing the sort of continuing education which is needed by West Virginia's nurses.

A more formal approach to preparation for leadership positions is through enrollment in a graduate program in nursing. None of the institutions of higher education in West Virginia offer the opportunity to qualified nurses of obtaining a master's degree in nursing. Those nurses who are motivated in this direction migrate to other states where the opportunity exists. West Virginia University is attempting to provide baccalaureate education to the many nurses without this degree in the State by extending its faculties and resources beyond the main campus at Morgantown. To what extent does the University have the capability and resources to also begin a graduate program in nursing? A feasibility study to obtain answers to these and many other questions might give evidence for considering a proposal to establish graduate education in nursing within the State University. Some questions which might be considered are (1) "Will the State of West Virginia continue to rely on other states to meet the needs of nurses for a master's degree?" (2) If the answer is yes, "What measures will be used to attract a sufficient number of nurses with a master's degree into the State in order to maintain the quality of the State's own nursing education programs and nursing service departments?"

SECTION VI

THE COMMITTEE TO STUDY NURSING NEEDS IN WEST VIRGINIA.....

ITS CONCLUSIONS AND RECOMMENDATIONS

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THE COMMITTEE TO STUDY NURSING NEEDS IN WEST VIRGINIA.... ITS CONCLUSIONS AND RECOMMENDATIONS

The previous five sections of the report describe the status of nursing and nursing education within the context of demographic, socioeconomic, and other factors which influence the provisions for and the delivery of any health service. Here and there throughout the report, situations have been described with suggestions or implications for further study and consideration. However, the primary purpose of the foregoing sections of the report is to present the picture of nursing and nursing education as it exists in West Virginia and not to present recommendations for action. Undoubtedly many readers of the foregoing sections will already have arrived at some decisions as to what should be done to improve the status of nursing and nursing education in the State. Quite possibly there may be differences among readers as to what the proper course of action should be.

In 1967, a joint committee of the West Virginia Nurses' Association and the West Virginia League for Nursing was formed with expertise in various areas of nursing and nursing education. The committee was selected for just such considerations of what might be done to improve nursing and nursing education in West Virginia. This was the Committee to Study Nursing Needs in West Virginia whose members for several years have considered and assessed the status of

nursing and nursing education. The results of their critical thinking, deliberations, and interactions are the conclusions and recommendations which follow.

CONCLUSIONS AND RECOMMENDATIONS

I. Nurse Manpower

A. Recruitment

1. There is a need for more nursing personnel in West Virginia.

   a. Organized recruitment efforts should be guided by a Centralized Planning Council charged with the responsibility of extending recruitment to all parts of the State, to develop guidelines and materials, to provide financial resources for recruitment, to seek and disseminate information on financial aid for students, and to investigate additional resources of financial aid.

      (1). Program efforts should be directed toward guidance counselors in late elementary, junior high, and high schools.

      (2). Recruitment practices should be developed to attract applicants to vocational, technical, professional, and graduate nursing programs without regard to age, sex, marital status, race, religion, or national origin.

      (3). A resource person should be provided and an agency within the State designated as a referral place for students who desire to enter nursing and who

are having difficulty for any reason in being admitted to the school of nursing of their choice.

(4). A public information service should be developed.

b. There is a need for increased enrollments in schools which prepare nursing personnel.

(1). Ways and means should be provided through general education to help interested applicants who are not qualified to become qualified.

(2). All existing programs in nursing should seek to become accredited by the National League for Nursing.

(3). All existing programs that are accredited by the National League for Nursing should be continued until other appropriate programs can be planned and established to meet the health care needs in West Virginia.

(4). New programs should be developed in areas of the State only after a feasibility study using uniform standards has been made to determine the nursing needs of the area in relation to nursing needs of the state.

(5). New programs established should meet the criteria for Reasonable Assurance of Accreditation of the National League for Nursing.

c. In order to meet an average of the recommended number of practioners of 450 nurses per 100,000 population in 1975,

(1). graduations should be increased by 50 percent:

(a). through expansion of present programs

(b) through establishment of new programs.

(2). Attrition should be decreased by at least 50 percent from:

(a). out of programs.

(b). out of the state.

(c). out of occupations.

(3). Studies should be done to determine the reasons for attrition from programs, the State, and the occupation of nursing.

d. Comprehensive Health Planning Regional groups could assist by determining the number of inactive nursing personnel who would agree to return to nursing part- or full-time if refresher courses were made available.

(1). If the number of inactive nursing personnel warrants reactivation, programs should be established within the region.

e. Continuous effort is needed to improve the career incentives and economic appeals of nurses and to open lines of communication between nursing and management on these subjects.

f. There should be legislative financial support for nursing students at the undergraduate level.

B. Career Planning for Nursing Leadership

1. There is a critical need for nursing leadership in West Virginia.

   a. Leadership potential should be identified at all levels. The possibility for upward and/or lateral mobility should be explored in all areas of nursing service and education.

      (1). Demonstration units for role models in nursing service should be developed.

      (2). Challenge examinations should be considered as a vehicle for mobility between all types of programs.

         (a). A committee of directors of the various educational programs should be formed to explore this possibility.

      (3). Baccalaureate degree programs in the State should establish, at several geographical areas, extension programs for registered nurses to obtain a baccalaureate degree in nursing.

      (4). West Virginia University School of Nursing should assess the need for a master's program in nursing, and if the need is demonstrated, West Virginia University School of Nursing should proceed with the initiation of the program.

      (5). Clinical specialization[1] should be actively promoted within the agencies which utilize the services of nursing.

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[1]The Committee defines the clinical specialist as a person who has graduated from a program in a clinical speciality area on the master's level.

II. Health Care and Facilities

A. Health care and educational facilities are inadequate to meet the nursing needs of the people.

1. Hospital, nursing homes, and all other health facilities need to meet accreditation and licensing requirements for their type of institution to insure safe and effective patient care.
2. Extended care facilities, convalescent homes, community mental health centers, home health services, and accredited nursing homes need to be established to alleviate over crowded hospital conditions for elderly and chronically ill patients.
3. Consideration should be given to more up-to-date methods of transporting patients for emergency care, to hospitals or centers designed to treat their conditions.
4. Health services need to be delivered to communities and homes in a more effective method. The possible use of mobile medical equipment and personnel to less densely populated areas where health care facilities are not available for diagnostic and treatment purposes should be considered.
5. A central directory which would be a source of information concerning professional skills, diagnostic and therapeutic resources, and availability of beds in long-term care facilities, psychiatric wards, and acute hospital beds in the region should be established in several satellite areas within regions so that information may be

immediately available for medical care.

6. State institutions concerned with care of mentally ill and mentally retarded should obtain full accreditation to meet approval for educational experiences for nursing students and students in allied health fields and to provide optimal care to patients.

III. Health Services

A. There is a need for better utilization of nursing personnel.

1. The West Virginia League for Nursing and the West Virginia Nurses' Association should form a committee to study utilization of nurses and staffing patterns within the State as well as comparing them with recent studies done in other areas. To arrive at improved methods to better utilize and supervise non-professional personnel, better methods should be established through studies and dissemination of information already known. Coordination of patient care is very necessary to adequately and effectively use allied health care workers. The Committee on Nursing Practice of the West Virginia Nurses' Association could form a nucleus for this committee.

2. All means available need to be utilized to eliminate non-nursing work by nursing personnel.

3. A Commission on Nursing within the framework of the State government should be established with a full-time nurse as its Executive Secretary or consultant to offer needed

services to coordinate the nursing activities within the State, such as:

a. Guidance and direction to nurses employed in agencies where there is no organized department of nursing or a prepared director of nursing.

b. Consultant services to departments of nursing service desiring help with specific local problems.

c. The mechanism for the compilation and provision of statistics relating to nursing service activities.

d. Provision of a mechanism for conducting research into nursing service problems.

4. Every effort should be made to bring nursing practice standards in West Virginia up to optimum level and to encourage departments of nursing service to seek national accreditation from the agency most appropriate for their institution.

IV. General Recommendations

A. There is a need for someone to speak authoritatively on nursing problems.

1. A council should be formed consisting of the executive secretary and president of the following organizations:

a. West Virginia Nurses' Association.

b. West Virginia League for Nursing.

c. West Virginia State Board of Examiners for Registered Nurses.

d. West Virginia State Board of Examiners for Licensed Practical Nurses.

e. West Virginia Commission on Nursing.

2. The functions of the Council should include:

a. Acting as spokesman for nursing organizations on matters concerning health planning.

b. Advising about establishment of educational facilities and types of programs.

c. Encouraging the involvement of nursing in health planning.

d. Speaking for nursing on an interdisciplinary health team approach.

e. Advising about available consultation services in nursing.

SECTION VII

ADDITIONAL REFERENCES

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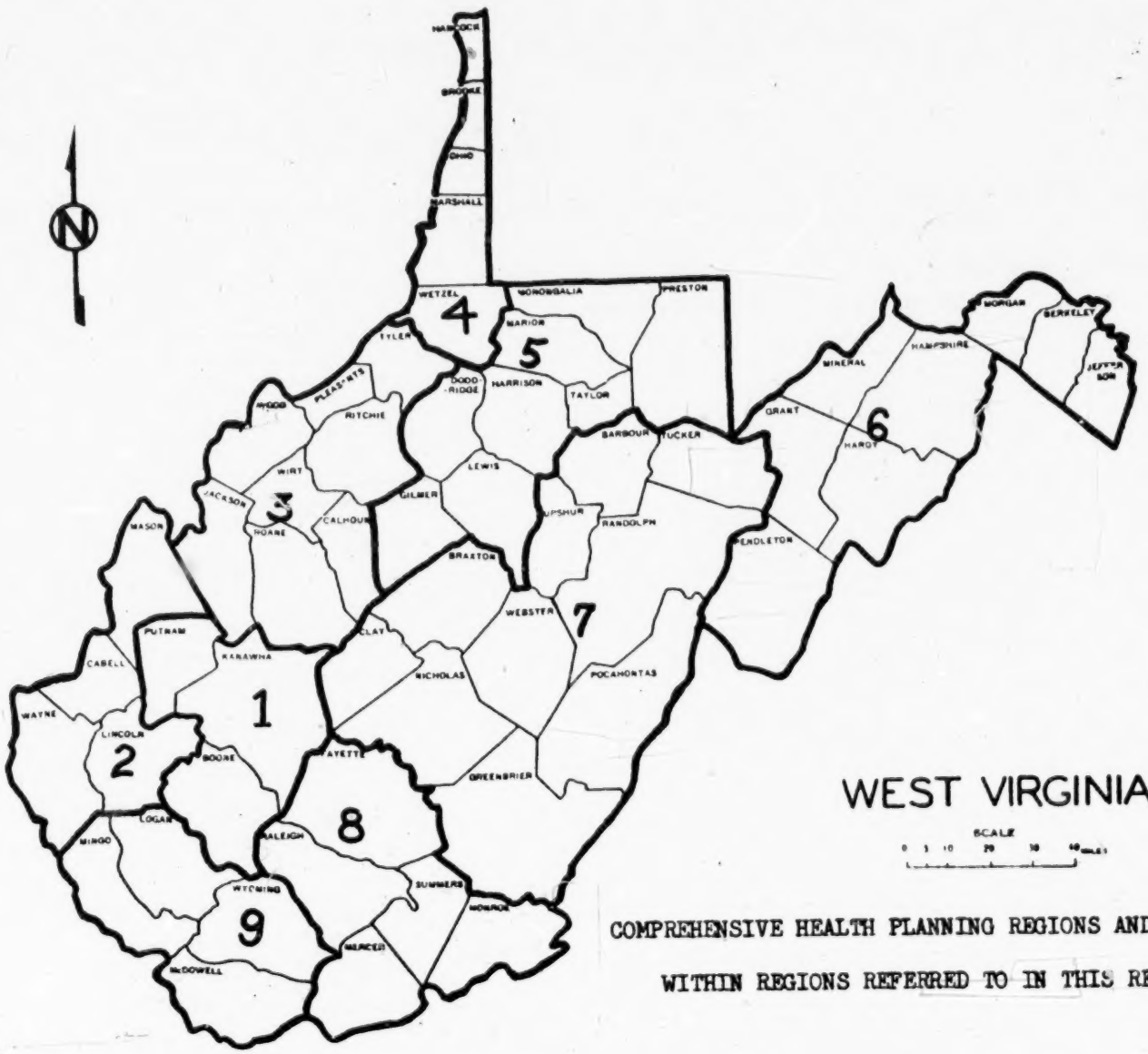

COMPREHENSIVE HEALTH PLANNING REGIONS AND COUNTIES

WITHIN REGIONS REFERRED TO IN THIS REPORT